7 Soil Investigation Results

Soils were initially investigated by GeoEngineers in 1991 and 1992. RETEC began soil investigations as part of the initial RI fieldwork in 1993 through 1995, conducted subsequent investigations to address data gaps, and completed the Supplemental RI soil investigation in 2001 and early 2002 to fill remaining data gaps identified since the Draft RI Report. RETEC collected soil samples throughout the BNSF rail yard area and nearby areas outside of the rail yard in Skykomish to characterize the nature and extent of surface and subsurface soil conditions. This effort focused on evaluating the vertical and horizontal distribution of constituents of interest at the rail yard, specifically petroleum hydrocarbons, metals, PCBs, and dioxins, the results of which are discussed below. Historical and current data are presented, each discussed by soil depth (surface soil, vadose zone, smear zone, and saturated zone). Analytical results of PAH and BTEX, organics that are components of TPH, as well as TOC, are also discussed in this section.

Figures 7-1 through 7-22 present the sampling locations and analytical results for the soil sampling efforts, illustrating the distribution of contaminants, according to depth interval. A total of 660 soil samples were collected and analyzed for some or all of the following groups of chemicals:

- Total petroleum hydrocarbons;
- Metals – arsenic and lead;
- PCBs;
- Dioxins;
- PAHs;
- BTEX; and
- TOC.

A discussion of the vertical and lateral distribution of these chemicals is presented below. Results of previous investigations, which have been submitted to Ecology in previous reports and correspondence, are considered in the data interpretations. All laboratory analytical reports from Supplemental RI soil samples are found in Appendix E.

In figures and tables accompanying this section, historic data have been incorporated with data from the Supplemental RI, with one exception. Petroleum hydrocarbon data collected during investigations prior to 1992 have not been included in any tables or figures because of uncertain validity of some of the data and the fact that analytical methods have changed significantly over the past 10 years. The exclusion of these data does not materially change the conclusions in this Supplemental RI Report.

Samples have been collected from various depth zones to characterize the vertical extent of soil contamination, the depths of which were determined in

the field based upon observed conditions. The results of the soil investigation are discussed in this section according to depth. However, rather than discuss the results strictly in terms of depth in feet below the ground surface, the site has been divided into depth zones that correspond to the transport processes that may act on contaminants throughout the site. The following zones have been defined throughout the site:

- Surface zone. The surface zone has been defined as the upper six inches outside the rail yard and the upper two feet in the railyard. The conceptual site model does not determine the depth interval of this zone, however the soil in this zone is unsaturated with groundwater at all times and contaminants will either migrate vertically downwards or remain immobile in the soil.

- Vadose zone. The vadose zone is located between the surface zone and the smear zone. This zone is located above the water table under normal conditions and consists of unsaturated soil. Contaminants within this zone will migrate vertically downwards under the influence of gravity and will not be transported by groundwater flow. This zone varies in depth and thickness throughout the area. The top of this zone is six inches outside the railyard and two feet within the railyard. The base of this zone corresponds to the maximum groundwater levels and the top of the smear zone. This depth averages approximately four feet north of the railyard and is approximately ten feet in the vicinity of the railyard, as a result the thickness of the vadose zone varies between two and eight feet. In a few low-lying areas and close to the barrier wall, the base of the vadose zone may be shallower during times of exceptionally high groundwater levels. In these areas the base of the vadose zone may be as shallow as two feet below the ground surface.

- Smear zone. The smear zone is defined as the range of depths within which the groundwater will fluctuate under normal seasonal conditions, and therefore, in which LNAPL would move and "smear" the soil in response to these seasonal changes in the water level elevation. The smear zone soils may therefore be saturated or unsaturated with groundwater at any given time. In addition to groundwater fluctuations influencing contaminant migration, the contaminants may be transported laterally through the aquifer in the direction of groundwater flow by the movement of groundwater. The top of the smear zone varies between a minimum depth of two feet near the barrier wall to a maximum depth of approximately ten feet in the railyard. The base of the smear zone ranges from an approximate depth of ten feet near the barrier wall and north of the railyard to a maximum depth of approximately 18 feet on the railyard. The thickness of the smear zone varies according to the groundwater

elevation and the depth to groundwater, however it is typically five to ten feet thick. In areas where the ground surface is much lower than the surrounding area, the smear zone is closer to the ground surface. The former channel of Maloney Creek is an example of this. In the former channel, the depth to groundwater is typically very shallow and may actually be at the ground surface when the groundwater levels are high. Therefore, in the Maloney Creek area, the smear zone extends to the ground surface during times with high groundwater levels. However, under normal conditions the top of the smear zone is at approximately three feet below the creek bed.

- Saturated zone. The saturated zone is defined as the depths where groundwater is always present regardless of groundwater elevation fluctuations. The top of the saturated zone is the base of the smear zone. Since LNAPL floats on and near the water table, it does not enter the saturated zone. The base of the smear zone is the top of the saturated zone and occurs generally between 10 and 18 feet below the ground surface.

Figures 7-7 through 7-11 show vertical TPH profiles along cross-section lines. These profiles clearly indicate that the highest TPH concentrations beyond the rail yard are generally present within the smear zone. This is expected because soil contamination beyond the rail yard has resulted from LNAPL floating at or near the water table and cross-contaminating the soil. The profiles that pass through the source areas on the rail yard indicate that there are also high TPH concentrations in the vadose zone. Contaminant concentrations in the vadose zone on the rail yard are sometimes higher than the concentrations in the smear zone. This is consistent with the effects of surface releases of hydrocarbons on the rail yard migrating downward through the vadose zone leaving high residual TPH concentrations behind. Elevated TPH concentrations are sometimes seen below asphalt yet are absent in the surrounding boreholes, indicating that some local surface contamination is not associated with the former maintenance and fueling facility and may be due to hydrocarbons associated with the asphalt and the road surfaces. Finally, the cross-sections indicate that contaminants do not extend significantly into the silt unit that underlies the surficial sand and gravel unit, and that the silt unit acts as a barrier to downward migration of hydrocarbons during low groundwater levels.

7.1 Total Petroleum Hydrocarbons

Previous investigations show that diesel-range and motor oil-range petroleum hydrocarbons are the most extensive contaminants associated with the former maintenance and fueling facility. Gasoline-range hydrocarbons were detected during early soil investigations; however, an adequate data set and a low

detection frequency indicated that gasoline-range hydrocarbons are not of concern at this site, and thus, further characterization was not warranted.

A total of 362 soil samples from 154 locations have been collected and analyzed for petroleum hydrocarbons during the Supplemental RI and previous investigations. Of these samples, 38 were collected at 35 locations prior to 1992, 89 were collected at 58 locations between 1992 and 1998, and 235 samples were collected at 61 locations after 1999. Soil samples were analyzed for the following petroleum hydrocarbon range constituents: diesel, motor oil (Methods WTPH-Dx, NWTPH-D, and NWTPH-Dx), and total petroleum hydrocarbons (EPA Method 418.1). In addition, fractionation data on specific carbon chain length hydrocarbons were collected from samples at depth using EPH/VPH techniques, and selected soil samples have been analyzed for BTEX and PAHs.

Select chromatograms from the TPH analyses were reviewed to determine if there were any trends in TPH found on the rail yard compared to off the rail yard. Chromatograms were selected for samples with high TPH concentrations, otherwise chromatograms tended to be flat with no discernable patterns. The evaluation indicated that TPH trends were not evident vertically or laterally. TPH composition released over time probably varied, as does the degree of weathering. The evaluation and evaluated data are presented in Appendix H.

In this section, TPH results using EPA Method 8015 modified (WTPH or NWTPH methods) are given preference over results using EPA Method 418.1, where both were run on a given sample. In some cases, only results from EPA Method 418.1 are available; these data are presented with diesel-range hydrocarbons obtained from WTPH/NWTPH methods for the diesel range.

7.1.1 Surface Zone

Table 7-1 and Figures 7-1 and 7-2 present the diesel and oil-range petroleum hydrocarbons respectively in the surface zone soil across the site. During the Supplemental RI and previous investigations, 23 samples were collected from surface soil outside rail yard property and analyzed for TPH. Maximum detections of both diesel-range and motor oil-range hydrocarbons outside the rail yard occurred at 2A-B-17 (1,000 and 1,600 mg/kg, respectively), located just beyond the rail yard property boundary adjacent to the mainline tracks. The average concentration of the detected diesel- and motor oil-range hydrocarbons was 117 and 306 mg/kg, respectively. Diesel concentrations were lower than motor oil concentrations, with the exception of 2B-B-5, which measured 200 and 170 mg/kg of diesel- and motor oil-range hydrocarbons, respectively.

On the rail yard, where concentrations were generally higher than outside rail yard property, 45 surface soil samples were collected and analyzed for TPH.

The maximum rail yard detection of diesel-range TPH occurred at 2A-B-7 (6,000 mg/kg) and the maximum detection of motor oil-range TPH occurred at 2A-B-6 (8,100 mg/kg). The average of the diesel- and motor oil-range hydrocarbons was 790 and 1,603 mg/kg, respectively. All diesel-range concentrations were lower than motor oil-range concentrations from any given sample.

On the rail yard, particularly in Section 2A, TPH in surface soil probably results from direct surface deposition during historic operations (e.g., spills and drips during fueling). These samples coincide with the locations of several historic facilities including the steel oil trap and diesel fueling station, timber oil sump, and oil pump house and former oil tanks. The exact source of the isolated occurrences of elevated TPH in SS-19 and SS-19.1 in Section 4 and 5-B-2 south of the tracks in Section 5 are not clear, but may be attributed to historic rail yard activities.

North of the rail yard, low levels of TPH were generally detected. The only transport mechanism for TPH from the rail yard to reach surface soil off of the rail yard is overland flow; for instance, stormwater transporting contaminants with runoff. Other potential sources of TPH in surface soil include street runoff from vehicle leakage or from freshly oiled asphalt. The source of elevated TPH concentrations in 5-W-2 and 5-W-1 are unclear due to their distance from historic operations and the presence of lower TPH concentrations between these locations and the rail yard. It is possible, however, that TPH in surface soil in the sample from 5-W-2 may be from a flooding event during septic system installation. The source of elevated TPH concentrations in 2A-B-17 is unclear as overland flow would have to cross the railroad tracks for this transport mechanism to be complete and this is an unlikely scenario. Likewise, south of the rail yard elevated TPH in 2B-B-4 can not reasonably be explained by overland flow as this sample location is located at a higher elevation than Maloney Creek, which lies between the rail yard and 2B-B-4. It should be noted that the surface soil sample collected from 1C-W-1 did not contain detectable TPH. This is located within 50 feet of an area in which a resident recalled seeing oil in a residential yard (see Section 5.2.4). These data do not indicate a surface impact at the precise sample location.

No EPH/VPH samples were collected from surface soils.

7.1.2 Vadose Zone

The vadose zone is defined as the area below surface soil but above the smear zone, generally two to ten feet below ground surface on the railyard, and one-half foot to four feet north of the railyard. Thirty-four samples were collected from outside rail yard areas and 37 were collected from the railyard. Table 7-2 and Figures 7-3 and 7-4 present TPH-diesel range and TPH-oil range, respectively, in vadose zone soil. Vadose zone impacts occur when surface

deposition of contaminants travels vertically from the surface to the groundwater zone, either via infiltration (dissolved contaminants in infiltrating precipitation) or gravity (LNAPL movement). Vadose zone TPH impacts are, therefore, expected in areas of historic rail yard activities, or in areas with elevated TPH in surface soil. Table 7-10 presents the fractionation data for EPH/VPH.

Outside of the rail yard, the average of the detected diesel- and motor oil-range hydrocarbons in the vadose zone was 57 and 81 mg/kg, respectively. Similar to the surface soil, during the Supplemental RI, sample 2A-B-17 had the highest TPH concentrations of diesel- and motor oil-range TPH (340 and 560 mg/kg, respectively) outside the rail yard at a depth of 2.5 feet bgs. Although this sampling location is north of the BNSF property line, it is adjacent to the mainline tracks, and may be considered as part of the rail yard.

One soil sample was analyzed for EPH/VPH in the vadose zone outside the rail yard (Table 7-10). Sample TPHTP-8 had detectable concentrations in both the aromatic and aliphatic C21 to C34 range. No other carbon ranges were detected. This sample location is adjacent to MW-39, which historically has contained LNAPL with heavy-end hydrocarbons.

On the rail yard, the average of the diesel- and motor oil-range hydrocarbons in the vadose zone was 2,339 and 3,202 mg/kg, respectively. The samples with the highest petroleum concentrations (2A-B-11 with 12,000 mg/kg, 2A-B-7 with 15,000 mg/kg, and TPHTP-4 with 18,200 mg/kg) are located in areas where historic rail yard facilities existed. These facilities included the fueling station and diesel tank, and areas topographically downgradient from the oil unloader pits, timber oil sump, and oil pump house.

Five soil samples were analyzed for EPH/VPH in the vadose zone rail yard area (Table 7-10). The majority of the detected values fall within the C12 to C34 carbon chain ranges for aromatics and aliphatics, which is consistent with the diesel- and motor oil-range concentrations.

In general, vadose zone impacts coincide with historic railroad operations on the rail yard. This is consistent with fate and transport mechanisms; surface deposition of LNAPL would flow through the vadose zone, by gravity and/or infiltration of precipitation, impacting the vadose zone soils. Away from the rail yard, vadose zone impacts coincide with areas where LNAPL has been observed in wells. Due to the extremely shallow groundwater between the rail yard and the river, the vadose zone in some places is only 2 to 3 feet thick and impacts in the vadose zone are likely the result of abnormally high water level events. These have not been assigned to the smear zone because they were collected at depths that would typically be above the range of groundwater fluctuation.

The volume of petroleum-impacted soil with TPH-diesel concentrations exceeding a screening level of 2,000 mg/kg has been estimated in light of the supplemental data. TPH-diesel data were used for this calculation because the area of soil impacted by TPH as diesel is fully coincident and somewhat larger than the area of soil impacted by motor oil-range TPH. The following soil areas and average thicknesses were assumed in the calculations:

Soil Depth Zone	Area of Soil > 2,000 mg/kg TPH-diesel (ft^2)	Average Thickness (ft)
Surface	44,000	2
Vadose	67,500	8
Smear	415,000	7.5

Assuming a soil bulk density of 1.7 g/cm^3 or 106 lb/ft^3, a product density of 0.97 g/ml and an average soil concentration of 4,000 mg/kg, an estimated 160,000 gallons of residual product is present at the site. Note that residual product implies that the product is not mobile. Using similar assumptions, the volume of residual product between the barrier wall and river (beneath the levee) is estimated to be 9,000 gallons.

7.1.3 Smear Zone

Table 7-3 and Figure 7-5 and 7-6 present TPH as diesel and as oil, respectively, from samples collected from smear zone soil on and off the rail yard. The smear zone varies in depth between four to eleven feet north of the railyard, and eleven to eighteen feet in the railyard. A total of 73 soil samples were collected outside the rail yard from the smear zone and analyzed for TPH. The maximum values of both diesel- and motor oil-range TPH (33,000 and 26,000 mg/kg, respectively) occurred in the outside rail yard smear zone sample (7.5 to 10 feet bgs) collected during installation of monitoring well 5-W-2, which contains LNAPL. The average of the diesel- and motor oil-range hydrocarbons was 2,716 and 3,115 mg/kg, respectively.

In the smear zone outside the rail yard, 24 soil samples were analyzed for EPH/VPH (Table 7-10). The majority of the detected values fall within the C12 to C34 carbon chain ranges for aromatics and aliphatics, which is consistent with the diesel- and motor oil-range hydrocarbons present at the site.

On the rail yard, 49 samples were collected from within the smear zone. The maximum rail yard values of both diesel-range and (similar to the surface soil) motor oil-range TPH occurred at 2A-B-6 (2 to 5 feet bgs) at 40,000 and 38,000 mg/kg, respectively. The average of the detected diesel- and motor oil-range hydrocarbons was 5,385 and 4,790 mg/kg, respectively. At the location where a resident allegedly observed oil running through her yard (Section 5.2.4), 1C-W-1, no product was detected in the surface zone; but diesel-range hydrocarbons were detected at 13 feet in the smear zone (Figure

7-5). Although this does not confirm the exact source of observed oil, lateral migration of contaminants in groundwater from the rail yard is the most likely potential source of soil contamination in this location.

On the rail yard, 27 soil samples were analyzed for EPH/VPH in the smear zone (Table 7-10). As expected, the majority of the detected values fall within the C12 to C34 carbon chain ranges for aromatics and aliphatics, consistent with the presence of diesel- and motor oil-range hydrocarbons.

Fate and transport mechanisms for TPH transport in the smear zone are dominated by transport associated with LNAPL and groundwater flow. As LNAPL moves through the subsurface, it adheres to soil resulting in elevated TPH concentrations. At the Skykomish site, groundwater and LNAPL flow towards the Skykomish River, therefore, impacts in the smear zone north of the rail yard in the direction of groundwater flow are expected. In fact, elevated TPH in smear zone soil is limited to areas in or adjacent to areas where product has been observed. Elevated TPH in smear zone soil on the rail yard is probably associated with historic fueling activities, and elevated TPH in smear zone soil north of the rail yard is more likely due to subsurface transport of LNAPL in the direction of groundwater flow. The source of elevated TPH concentrations in MW-39 and TPHTP-8, even though upgradient from the site, could be related to elevated TPH concentrations in the smear zone on the rail yard stemming from historical fueling activities and subsequent subsurface or above-surface transport during times of flooding. During the Supplemental RI field investigation, the former Maloney Creek was above flood stage and water was flooding the banks southward toward the area near MW-39 and TPHTP-8 providing a possible pathway for contamination to impact those areas.

7.1.4 Saturated Zone

Table 7-4 presents TPH in saturated soil at the site, which is below the smear zone at approximately 10 to 18 feet. Of the 82 saturated zone soil samples submitted for TPH analysis, 48 were collected outside the rail yard and 34 were collected from the rail yard.

Outside the rail yard, the maximum values of both diesel- and motor oil-range TPH occurred at a depth of 16 feet bgs in 1B-W-2 (170 and 150 mg/kg, respectively). The average of the diesel- and motor oil-range hydrocarbons was 5 and 10 mg/kg, respectively. The deepest detection of TPH off of the rail yard was at 19 feet bgs at 1C-W-1 (5.2 mg/kg), 2B-W-4 (23 mg/kg), and PZ-4 (12 mg/kg); this depth is very close to the bottom of the smear zone and may represent smear zone contamination during unusually low water levels.

On the rail yard, 34 samples were collected from saturated zone soil. TPH was not detected at depths greater than 25 feet bgs. The maximum diesel- and

motor oil-range TPH concentrations were located in 5-B-2 at 10,000 and 8,000 mg/kg, respectively, at a depth of 15 feet bgs.

Neither of the two samples collected in the saturated zone and analyzed by the EPH/VPH method had detectable hydrocarbon concentrations (Table 7-10).

TPH profiles in soil are presented on Figures 7-7 through 7-11 for cross-sections A–A', B–B', C–C', D–D', and E–E', respectively. These show graphically the depth to the base at the contamination and hence the top of the saturated zone.

7.2 Metals

A total of 233 soil samples from 227 locations has been collected and analyzed for metals during all investigations of the former maintenance and fueling facility. Of these samples, 15 were collected prior to 1992, 50 were collected between 1992 and 1998, and 168 samples were collected after 1999. Soil samples were analyzed for metals by EPA Methods 6010 and SW7060A. During initial investigations, arsenic and lead were identified as the primary metals of concern and are, therefore, the only metals discussed in this section. Samples were collected primarily from surface zone soils; however, several samples were also collected from shallow subsurface soils.

Potential sources of metals include coal-burning locomotives, sandblasting activities, and local geology with naturally occurring elevated mineral content. During the initial RI fieldwork, metals were detected not only in historic operations areas of the site but also in more remote locations (e.g., BG-2, a "background" sample collected in the woods to the east of the site) so it is likely that elevated metals may be naturally found in this area. Further, as shown in mining maps presented in the *Background Metals Analysis* report (RETEC, 1997b), many mining prospects are situated near Skykomish. Because metals may naturally be elevated in this area, in addition to the investigation efforts described above, a natural background study was performed in 1999. Supporting documentation including figures, tables and background calculations, is included in Appendix G of this Supplemental RI Report.

On June 11, 1999, ten soil samples (and one duplicate) were collected from remote locations surrounding Skykomish. Sample locations were intended to be close enough to Skykomish to be similar geologically but far enough from railroad tracks to not be impacted by coal dust fallout from passing trains.

The natural background concentration of metals in soils surrounding Skykomish were calculated using the Background Calculation module provided in MTCA STAT. The estimated 50^{th} and 90^{th} percentile background concentrations were calculated for the background data using the nonparametric method. The background level was determined to be the lesser

of the 90th percentile or four times the 50th percentile metals concentration. See Appendix G for model output from these calculations.

Based on these calculations, the background concentration for arsenic in this area was calculated to be 27.7 mg/kg arsenic, which corresponded to four times the 50th percentile. The Washington state background level of arsenic as determined by Ecology (1994) is 7 mg/kg, so it is evident that arsenic is locally elevated in this region. Background concentrations of chromium, copper, lead, nickel, and zinc were also calculated based on these site-specific data. In all cases, the site-specific natural background concentration was higher than the Washington state natural background concentration. The results of these calculations are included in the table below.

Background concentrations were not calculated for antimony, beryllium, cadmium, mercury, or selenium because these metals were not detected or were detected infrequently.

Metal	Washington State Background (mg/kg)	Site-Specific Natural Background (mg/kg)
Antimony	5	NA
Arsenic	7	27.7
Beryllium	1.4	NA
Cadmium	1	NA
Chromium	41.9	59.2
Copper	36	84.4
Lead	17.1	37.5
Mercury	0.07	NA
Nickel	38.2	63.25
Selenium	0.78	NA
Zinc	85.8	240.36

7.2.1 Arsenic

Results from soil samples submitted for arsenic analysis are presented in Table 7-5 and on Figures 7-12 (surface) and 7-14 (subsurface). None of the 93 samples collected beyond the rail yard contained arsenic concentrations above 20 mg/kg, which is the MTCA Level A soil cleanup level for unrestricted land use. The majority of samples with levels above 20 mg/kg occurred near current and former rail yard facilities.

Away from these areas, low concentrations of arsenic appear to be evenly distributed across the rail yard and may be indicative of naturally occurring levels. The statewide 90th percentile for arsenic is 7 mg/kg and the King County natural background arsenic concentration is reported as 7.3 mg/kg (Ecology, 1994). As discussed above, using Ecology's guidance on calculation of site-specific background concentrations, the natural background concentration of arsenic in the Skykomish area is approximately 27.7 mg/kg.

The distribution of arsenic is not indicative of a particulate wind distribution pattern.

In samples collected from the subsurface, only one sample (MW-31 at 4 feet bgs) contained arsenic greater than 20 mg/kg. This sample contained arsenic at a concentration of 27 mg/kg, near the natural background concentration for the area. In addition, it has been reported that sandblast grit or soil from near the sandblasting area may have been used as fill on the rail yard west of 5th Street on the rail yard. This may be the source of arsenic in that area.

Based on the results from this and previous investigations as well as the analysis of natural background concentrations in the area, it appears that arsenic impacts are limited to surface soils on the rail yard primarily near the former unloader pits and maintenance buildings. Arsenic concentrations outside the rail yard are comparable to background concentrations.

7.2.2 Lead

Lead distribution across the site is presented in Table 7-15 and on Figures 7-13 (surface) and 7-12 (subsurface). On the rail yard, elevated lead concentrations coincide with historic rail yard operations. The source of lead on the rail yard is likely sandblast grit, leaded-fuel train exhaust, and paints. The maximum lead concentration was detected in a surface sample from B-9 at 3,600 mg/kg on the rail yard.

The distribution of lead in surface soil outside the rail yard is inconsistent and not indicative of a particulate wind dispersion pattern. A typical particulate wind dispersion pattern would consist of uniformly distributed particles from the source to downgradient areas. The volume of windblown particles would decrease with distance from the source and therefore, associated concentrations of contaminants resulting from wind dispersion would also decrease with distance. At Skykomish, the predominant wind direction is east-west along the river valley. Therefore, one would not expect windblown particles originating in the railyard to be predominantly blown to the area north of the railyard. However, although not the predominant wind direction, the wind does blow from the south to the north at times, and if these winds have caused particulate dispersion to the north of the railyard, the volume of windblown particulates and associated contaminant concentrations would be expected to extend uniformly from the railyard to areas north of the railyard, and maybe decrease with distance. This has not been observed in the data collected to date. Overland flow and transport of impacted surface soils away from the rail yard could not result in the apparently random pattern of lead concentrations beyond the rail yard. The potential non-rail yard-related sources of lead include lead-based paint and leaded fuel.

Elevated lead concentrations in surface soil beyond the rail yard do not coincide with elevated TPH away from the rail yard. For example, elevated

lead in the schoolyard (B-11 and 5-SS-9) are not accompanied by elevated TPH; the surface sample from 5-B-3 contained only 66 mg/kg total TPH. Likewise, elevated lead concentrations were observed in Sections 1A, 1B, and 1C; TPH concentrations in surface soil samples from these sections ranged up to 58.5 mg/kg. Moreover, slightly elevated TPH (up to 2,600 mg/kg) noted in the northern portion of Section 2A, adjacent to the outside rail yard Sections 1A, 1B, and 1C, are accompanied by low concentrations of lead (generally around 100 mg/kg) along that boundary.

7.3 PCBs

A total of 96 soil samples from 53 locations have been collected and analyzed for PCBs during all the investigations. Of these samples, 3 were collected prior to 1992, 37 were collected between 1992 and 1998, and 56 samples were collected after 1999. Soil samples were analyzed for PCBs by EPA Methods 8080 and SW8082.

PCB distribution is presented in Table 7-6 and on Figure 7-16. All PCB detections were located on rail yard property and all prior to the Supplemental RI investigation. The only PCBs detected were Aroclor 1254 and Aroclor 1260, which were detected at a maximum concentration of 1.2 mg/kg in surface soil sample SS-27.

PCBs were included in the suite of chemicals for analysis based on low levels detected during the initial RI efforts and anecdotal reports of "PCB oil" being spread on site. No PCBs were detected in any of the surface soil samples submitted for PCB analysis during the Supplemental RI. This indicates that PCB impacts, although present in low levels near the former transformer, are not widespread; it is unlikely that PCB oil was spread on site given the lack of detections of PCBs in surface soil.

7.4 Dioxins

One dioxin sample was collected at Ecology's request at a location with suspected PCB contamination (Table 7-7). Sample 2A-B-1, located on the rail yard, detected the maximum dioxin concentration (0.158 µg/kg of OCDD); the average dioxin concentration was 0.014 µg/kg.

7.5 PAHs

A total of 54 soil samples from 48 locations has been collected and analyzed for PAHs. Of these samples, 15 were collected prior to 1999 and 36 samples were collected after 1999 as part of the Supplemental RI. Soil samples were analyzed for PAHs by EPA Method SW8270. Table 7-8 summarizes all PAH results from site soil samples. Figures 7-17 through 7-22 present naphthalene, benzo(a)pyrene and total carcinogenic PAH results from vadose and smear zone soil samples. Naphthalene and benzo(a)pyrene were selected to

represent particularly mobile and toxic PAH compounds, respectively. PAHs are a component of petroleum products; therefore, PAHs are expected to be co-located with TPH at the site. Results of PAH analyses are discussed below by depth.

7.5.1 Surface Zone

No PAHs were detected in any of the four surface zone samples outside the rail yard. No surface zone samples were analyzed for PAHs on the rail yard.

7.5.2 Vadose Zone

Figures 7-17 and 7-18 show naphthalene and benzo(a)pyrene concentrations, respectively, from vadose zone soil samples at the site.

Outside the rail yard, five samples were collected in the vadose zone and analyzed for PAHs. The majority of the PAH compounds were not detected. The highest concentration of PAHs in the outside rail yard vadose zone was observed in MW-39 for benzo(b)fluoranthene at 0.26 mg/kg. Naphthalene was not detected in any samples and benzo(a)pyrene was only detected in one sample, MW-39, at 0.13 mg/kg. The fact that PAHs are detected in this location is consistent with elevated TPH concentrations also detected here.

On the rail yard, 12 samples were collected in the vadose zone and analyzed for PAHs. Chrysene and phenanthrene were the most detected compounds. Sample TPHTP-4 had the highest concentrations of naphthalene and benzo(a)pyrene at 2.99 and 1.1 mg/kg, respectively. These samples also correspond to those with high TPH concentrations.

Figure 7-19 and Table 7-8 show the estimated concentrations of total carcinogenic PAHs (cPAHs) in the vadose zone soil. The detected concentrations of cPAHs were normalized using potency equivalency factors (PEFs) from the California EPA, Office of Environmental Health Hazard Assessment (OEHHA) Health Hazard Weighting Scheme for PAHs (1994). The cPAHs and their associated PEFs consist of the following: benzo(a)pyrene (1.0), benzo(a)anthracene (0.1), benzo(b)fluoranthene (0.1), benzo(k)fluoranthene (0.1), chrysene (0.01), dibenz(a,h)anthracene (1.0 – conservative assumption because no factor is provided), and indeno(1,2,3-cd)pyrene (0.1). At each sample location, the detected concentrations were multiplied by the PEFs to provide a normalized detected concentration for cPAHs. The detection limit for each cPAHs that was below the detection limit was multiplied by 0.5 x PEF to be consistent with the treatment of detected concentrations, and the normalized concentrations of the non-detected cPAHs were summed to provided a normalized cumulative concentration of non-detected cPAHs. The normalized cumulative sums of the non-detected cPAHs were added to the detected cPAHs to provide the final concentration. The concentrations were compared to the MTCA Method

B soil cleanup level (0.137 mg/kg). It should be noted that this screening level is preliminary and may not be the same as site-specific cleanup levels that will be determined in the FS. In several samples, the sum of detected concentrations did not exceed the soil cleanup level, but the sum of the non-detects provided, in part, a total concentration that did exceed the soil cleanup level. These samples have been flagged on the figure and the table.

The data indicate that there are concentrations of total cPAHs that exceed the MTCA Method B soil cleanup level on the railyard, with the highest concentration found in TPHTP-4 (1.6519 mg/kg). The distribution of these concentrations are similar to those observed for naphthalene, benzo(a)pyrene, and TPH.

7.5.3 Smear Zone

Naphthalene and benzo(a)pyrene concentrations in the smear zone are presented on Figures 7-20 and 7-21, respectively.

Beyond the rail yard, 15 smear zone soil samples were collected for analysis of PAHs. Fluoranthene was the most detected PAH compound. Sample TPHTP-8 had the only detections of naphthalene and benzo(a)pyrene, at 4.29 and 1.55 mg/kg, respectively. The remaining detections of PAH compounds off of the rail yard occurred in areas where LNAPL is present or immediately downgradient of areas where LNAPL has been observed.

On the rail yard, 17 smear zone samples were collected and analyzed for PAHs. Phenanthrene and pyrene were the compounds detected the most frequently. Sample 2A-B-7 had the highest concentration of naphthalene, at 3.3 mg/kg. Sample TPHTP-4 had the highest concentration of benzo(a)pyrene, at 0.851 mg/kg.

Figure 7-22 shows the estimated concentrations of total carcinogenic PAHs (cPAHs) in the vadose zone soil. The cPAHs and method to calculate the total concentration is described in Section 7.5.2. The results indicate that the highest normalized concentrations of total cPAHs are found in the railyard in 2A-B-6 (1.712 mg/kg estimated) and TPHTP-8 (2.4191 mg/kg). The results also indicate that there are two areas with elevated cPAH concentrations within the railyard. One area to the west contains samples from TPHTP-7 and 2A-B-14, and is restricted to the railyard. The other area is larger in areal extent and continues to the northwest from the railyard to the barrier wall.

7.5.4 Saturated Zone

No saturated zone samples were analyzed for PAHs outside the rail yard. No PAHs were detected in either of the two saturated zone samples in the rail yard area.

7.6 BTEX

Table 7-9 summarizes BTEX results from site soil samples. Outside the rail yard, 32 samples were analyzed for BTEX, and on the rail yard, 44 soil samples were analyzed for BTEX.

In all cases, detected benzene concentrations were well below 1 mg/kg, with the maximum detection of 0.093 mg/kg in a sample from MW-8 in 1990. In the Supplemental RI effort, the maximum benzene concentration was even lower, at 0.02 mg/kg in 2A-B-6. Concentrations of the other BTEX compounds were similarly low, with the highest detections occurring during the 1990 sampling effort. Given the volatile nature of BTEX compounds and the permeability of site soils, it is unlikely that 12-year-old BTEX results would be indicative of current soil quality.

7.7 TOC

Total organic carbon (TOC) was measured in nine soil samples during the Supplemental RI (Table 7-11). All soil samples were collected from 4 feet bgs in areas where TPH impacts were expected to be minimal. Observations made during drilling confirm that no or minimal evidence of impacts were observed in these locations. Further, samples were collected from off of the rail yard, where vadose zone impacts are known to be minimal.

TOC concentrations ranged from 0.14 to 38 percent (at 5-B-6), with the average concentration of 5 percent. Samples collected from 4 feet bgs during installation of piezometers are the samples most likely to have TPH impacts, as the piezometers were installed near the barrier wall, in areas where the depth to groundwater is sometimes less than 4 feet bgs. The maximum TOC concentration in this area was 1.7 percent (1B-W-1). Removing these (three samples) from the data set used to calculate the average TOC concentration results in an average of 7.3 percent.

The average concentration is skewed by the elevated measurements in the 5-B-6 sample (up to 61.3 percent); however, samples collected from this boring and analyzed for TPH confirm that TPH contamination is not likely responsible for the elevated TOC concentration. In samples collected at the surface and at 7 feet bgs, the TPH concentrations in this sample were 181 mg/kg and BDL, respectively. However, this sample appears to have been collected from the burn zone described in Section 6, and ash is noted in the boring log at approximately 4 feet bgs—the depth where the sample was collected. The broad range of TOC concentrations in site soils indicates the large variability in organic carbon content at the site.

Removing the TOC results from 5-B-6 and the piezometers leaves five samples with a maximum TOC concentration of 3.3 percent (2B-B-2). The average TOC concentration in these five samples is 1.21 percent.

Table 7-1 Summary of Soil TPH – Surface

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)			TPH-MO (mg/kg)		
					DL	Result		DL	Result	
Outside Rail Yard										
2A-B-17	2A-B-17-2	12/3/2001	0–2	NWTPHD	100	**1,000**		200	**1,600**	
2A-B-18	2A-B-18-2	12/4/2001	0–2	NWTPHD	50	**220**		100	**320**	
2A-W-1	2A-W-1-0-2	12/6/2001	0–2	NWTPHD	5	**54**	**J**	10	**95**	**J**
2A-W-2	2A-W-2-0-2	12/8/2001	0–2	NWTPHD	5	**220**		10	**230**	
2A-W-6	2A-W-6-0-2	12/9/2001	0–2	NWTPHD	5	**10**		10	**38**	
2B-B-1	2B-B-1-0-2	1/8/2002	0–2	NWTPHD	5	**20**		10	**59**	
2B-B-5	2B-B-5-0-2	12/10/2001	0–2	NWTPHD	5	**200**	**J**	10	**170**	**J**
2B-W-4	2B-W-4-0-2	12/17/2001	0–2	NWTPHD	5	**34**		10	**130**	
3-B-1	3-B-1-0-2.5	12/17/2001	0–2.5	NWTPHD	5	**9**		10	**40**	
3-B-2	3-B-2-0-2	12/14/2001	0–2	NWTPHD	5	**5.6**		10	**40**	
3-B-3	3-B-3-0-2	12/10/2001	0–2	NWTPHD	25	**38**		50	**170**	
4-B-1	4-B-1-0-2	12/8/2001	0–2	NWTPHD	5	**10**	**J**	10	**36**	**J**
5-B-1	5-B-1-2	12/3/2001	2–2	NWTPHD	10	**44**		20	**290**	
5-B-3	5-B-3-0-2	12/15/2001	0–2	NWTPHD	5	**15**		10	**51**	
5-B-5	5-B-5-0-2	12/18/2001	0–2	NWTPHD	50	**85**		100	**650**	
5-W-1	5-W-1-0-6/12-18	12/8/2001	0–1.5	NWTPHD	50	**130**	**J**	100	**590**	**J**
5-W-2	5-W-2-0-2	12/15/2001	0–2	NWTPHD	100	**480**		200	**1,000**	
HA-1	HA1-2	10/7/1993	1–2	E418.1	105	BDL		—	—	
HA-2	HA2-1	10/7/1993	1–1.5	E418.1	117	BDL		—	—	
HA-3	HA3-1	10/7/1993	0–1	E418.1	119	BDL		—	—	
HA-4	HA4-0	10/7/1993	0–1	E418.1	106	100	J	—	—	
SS-17	SS17-0	9/30/1993	0–0.5	E418.1	125	BDL		—	—	
SS-18	SS18-0	9/30/1993	0–0.5	E418.1	105	**130**		—	—	

Table 7-1 Summary of Soil TPH – Surface

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Rail Yard								
2A-B-12	2A-B-12-0-2	12/14/2001	0–2	NWTPHD	5	**170**	10	**230**
2A-B-13	2A-B-13-0-2.5	12/10/2001	0–2.5	NWTPHD	100	**330**	200	**610**
2A-B-14	2A-B-14-0-2.5	12/10/2001	0–2.5	NWTPHD	100	**430**	200	**1,000**
2A-B-15	2A-B-15-0-2	12/11/2001	0–2	NWTPHD	100	**960**	200	**2,700**
2A-B-16	2A-B-16-0-5	12/11/2001	0–5	NWTPHD	5	**170**	10	**220**
2A-B-19	2A-B-19-0-2	12/18/2001	0–2	NWTPHD	50	**240**	100	**700**
2A-B-5	2A-B-5-0-2.5	12/4/2001	0–2.5	NWTPHD	100	**2,300 J**	200	**950 J**
2A-B-6	2A-B-6-0-2	12/5/2001	0–2	NWTPHD	200	**3,100**	400	**8,100**
2A-B-7	2A-B-7-0-2	12/6/2001	0–2	NWTPHD	620	**6,000**	1,200	**7,400**
2A-B-8	2A-B-8-0-2	12/13/2001	0–2	NWTPHD	100	**970**	200	**2,600**
2A-W-10	2A-W-10-0-2	12/12/2001	0–2	NWTPHD	100	**480**	200	**1,300**
2A-W-3	2A-W-3-0-2	12/12/2001	0–2	NWTPHD	5	**110**	10	**190**
2A-W-4	2A-W-4-0-2	12/16/2001	0–2	NWTPHD	5	**12 J**	10	**33 J**
2A-W-5	2A-W-5-0-2	12/9/2001	0–2	NWTPHD	100	**1,600**	200	**1,800**
2A-W-7	2A-W-7-0-2	12/12/2001	0–2	NWTPHD	5	**81**	10	**190**
2A-W-8	2A-W-8-0-2	12/12/2001	0–2	NWTPHD	5	**200**	10	**250**
2A-W-9	2A-W-9-0-2	12/18/2001	0–2	NWTPHD	250	**1,900**	500	**4,600**
2B-B-2	2B-B-2-0-2	12/19/2001	0–2	NWTPHD	5	**43**	10	**95**
2B-B-4	2B-B-4-0-2.5	12/7/2001	0–2.5	NWTPHD	100	**1,700**	200	**3,100**
5-B-2	5-B-2-0-2	12/14/2001	0–2	NWTPHD	50	**360**	100	**860**
5-B-6	5-B-6-0-2	12/18/2001	0–2	NWTPHD	5	**61**	10	**120**
BG-1	BG1-0	10/1/1993	0–0.5	E418.1	121	BDL	—	—
BG-2	BG2-0	9/30/1993	0–0.5	E418.1	149	BDL	—	—
DW-3	DW3-0	9/29/1993	0–0.5	E418.1	112	BDL	—	—
SS-13	SS13-0	9/30/1993	0–0.5	E418.1	104	BDL	—	—
SS-14	SS14-0	9/30/1993	0–0.5	E418.1	102	**190**	—	—
SS-15	SS15-0	9/30/1993	0–0.5	E418.1	103	**250**	—	—
SS-16	SS16-0	9/30/1993	0–0.5	E418.1	106	**270**	—	—
SS-19	SS19-0	9/30/1993	0–0.5	E418.1	105	**2,800**	—	—
SS-19.1	SS19.1-0	9/30/1993	0–0.5	E418.1	860	**3,600**	—	—
SS-20	SS20-0	10/1/1993	0–0.5	E418.1	104	BDL	—	—
SS-21	SS21-0	9/30/1993	0–0.5	E418.1	110	**180**	—	—
SS-22	SS22-0	9/30/1993	0–0.5	E418.1	103	**110**	—	—
SS-23	SS23-0	9/30/1993	0–0.5	E418.1	119	**270**	—	—
SS-24	SS24-0	9/30/1993	0–0.5	E418.1	102	BDL	—	—
SS-25	SS25-0	10/1/1993	0–0.5	E418.1	119	BDL	—	—
SS-26	SS26-0	10/1/1993	0–0.5	E418.1	114	**170**	—	—
SS-27	SS27-0	9/30/1993	0–0.5	E418.1	105	**660**	—	—
SS-28	SS28-0	9/28/1993	0–0.5	E418.1	1,697	**4,900**	—	—
SS-29	SS29-0	9/30/1993	0–0.5	E418.1	105	**880**	—	—
SS-30	SS30-0	9/30/1993	0–0.5	E418.1	117	BDL	—	—
SS-31	SS31-0	9/30/1993	0–0.5	E418.1	108	BDL	—	—
SS-32	SS32-0	9/30/1993	0–0.5	E418.1	105	BDL	—	—
SS-50	SS-50	6/30/1997	0.25–0.25	WTPH-D Ex	25	**37**	50	**110**
SS-51	SS-51	6/30/1997	0.25–0.25	WTPH-D Ex	25	**100**	50	**310**

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-2 Summary of Soil TPH – Vadose Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Outside Rail Yard								
1A-W-1	1A-W-1-2.5-5	12/5/2001	2.5–5	NWTPHD	5	BDL	10	BDL
1A-W-1	1A-W-1-5-7.5	12/5/2001	5–7.5	NWTPHD	5	**23**	10	**100**
1A-W-1	1A-W-1-7.5-10	12/5/2001	7.5–10	NWTPHD	5	BDL	10	BDL
2A-B-17	2A-B-17-2.5	12/3/2001	2.5–2.5	NWTPHD	50	**340**	100	**560**
2A-B-17	2A-B-17-5	12/3/2001	5–5	NWTPHD	5	**58**	10	**61**
2A-B-17	2A-B-17-7.5	12/3/2001	7.5–7.5	NWTPHD	5	**58**	10	**92**
2A-B-18	2A-B-18-2.5	12/4/2001	2.5–2.5	NWTPHD	5	BDL	10	BDL
2A-B-18	2A-B-18-5	12/4/2001	5–5	NWTPHD	5	BDL	10	BDL
2A-B-18	2A-B-18-7.5	12/4/2001	7.5–7.5	NWTPHD	5	**100**	10	**150**
2A-W-1	2A-W-1-2.5-5	12/6/2001	2.5–5	NWTPHD	5	BDL	10	BDL
2A-W-1	2A-W-1-5-7.5	12/6/2001	5–7.5	NWTPHD	100	**270**	200	**530**
2A-W-6	2A-W-6-2.5-5	12/9/2001	2.5–5	NWTPHD	5	**22**	10	**55**
2A-W-6	2A-W-6-5-7.5	12/9/2001	5–7.5	NWTPHD	5	**35**	10	**30**
2B-W-4	2B-W-4-4	12/17/2001	4–4	NWTPHD	5	BDL	10	BDL
3-B-1	3-B-1-2.5-5	12/17/2001	2.5–5	NWTPHD	5	BDL	10	BDL
3-B-2	3-B-2-6	12/14/2001	6–6	NWTPHD	5	BDL	10	BDL
3-B-3	3-B-3-7	12/10/2001	7–7	NWTPHD	5	BDL	10	BDL
5-B-1	5-B-1-4	12/3/2001	4–4	NWTPHD	5	**9.1**	10	**46**
5-B-3	5-B-3-4	12/15/2001	4–4	NWTPHD	5	BDL	10	BDL
B-11	B11-5	9/27/1993	5–6.5	WTPH-D	26	BDL	—	—
B-12	B12-7.5	10/29/1993	7.5–9	WTPH-D	26	**13** **J**	—	—
DW-4	DW4-2.5	9/27/1993	2.5–4	WTPH-D	11	**89**	—	—
DW-5	DW5-12	10/23/1993	12–13.5	WTPH-D	25	BDL	—	—
MW-33	MW33-2.5	9/28/1993	2.5–4	WTPH-D	31	**63**	—	—
MW-34	MW34-10	9/28/1993	10–11.5	WTPH-D	26	BDL	—	—
MW-35	MW35-10	9/28/1993	10–11.5	WTPH-D	26	**17** **J**	—	—
MW-39	MW39-6	10/19/1993	6–7.5	WTPH-D	25	**29**	—	—
PZ-1	PZ-1-2.5-0901	9/20/2001	2.5–2.5	NWTPHD	5	BDL	10	BDL
PZ-4	PZ-4-2.5-0901	9/22/2001	2.5–2.5	NWTPHD	5	**23**	10	**110**
PZ-5	PZ-5-2.5-0901	9/20/2001	2.5–2.5	NWTPHD	5	**52**	10	**110**
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	NWTPH-Dx	10	**28.9**	25	**133**

Table 7-2 Summary of Soil TPH – Vadose Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Rail Yard								
2A-B-11	2A-B-11-2.5-5	12/14/2001	2.5–5	NWTPHD	570	**12,000**	1,100	**12,000**
2A-B-13	2A-B-13-2.5-5	12/10/2001	2.5–5	NWTPHD	5	BDL	10	BDL
2A-B-13	2A-B-13-5-7.5	12/10/2001	5–7.5	NWTPHD	50	**260**	100	**400**
2A-B-14	2A-B-14-2.5-5	12/10/2001	2.5–5	NWTPHD	5	**16 J**	10	**28 J**
2A-B-14	2A-B-14-5-7.5	12/10/2001	5–7.5	NWTPHD	50	**170**	100	**410**
2A-B-14	2A-B-14-7.5-10	12/10/2001	7.5–10	NWTPHD	5	BDL	10	BDL
2A-B-16	2A-B-16-5-7.5	12/11/2001	5–7.5	NWTPHD	5	**5.3**	10	BDL
2A-B-16	2A-B-7.5-10	12/11/2001	7.5–10	NWTPHD	5	**20**	10	**46**
2A-B-19	2A-B-19-4	12/18/2001	4–4	NWTPHD	100	**3,600**	200	**5,600**
2A-B-5	2A-B-5-2.5-5	12/4/2001	2.5–5	NWTPHD	5	**110**	10	**36**
2A-B-7	2A-B-7-2.5-5	12/6/2001	2.5–5	NWTPHD	2,500	**7,900**	5,000	**15,000**
2A-B-7	2A-B-7-5-7.5	12/6/2001	5–7.5	NWTPHD	290	**11,000**	590	**8,400**
2A-W-10	2A-W-10-2.5-5	12/12/2001	2.5–5	NWTPHD	100	**1,500**	200	**3,100**
2A-W-3	2A-W-3-7	12/12/2001	7–7	NWTPHD	5	**14**	10	**38**
2A-W-4	2A-W-4-8	12/16/2001	8–8	NWTPHD	50	**470**	100	**900**
2A-W-5	2A-W-5-2.5-5	12/9/2001	2.5–5	NWTPHD	250	**5,900**	500	**3,700**
2A-W-5	2A-W-5-5-7.5	12/9/2001	5–7.5	NWTPHD	5	**120**	10	**100**
2A-W-8	2A-W-8-12	12/12/2001	12–12	NWTPHD	5	BDL	10	**16**
2B-B-4	2B-B-4-2.5-5	12/7/2001	2.5–5	NWTPHD	5	**57 J**	10	**140 J**
B-10	B10-10	9/29/1993	10–11.5	WTPH-D	274	**9,500**	—	—
B-4	B4-10	9/28/1993	10–11.5	E418.1	100	**340**	—	—
B-5	B5-7	10/24/1993	7–8.5	WTPH-D	26	**26**	—	—
B-6	B6-8	10/18/1993	8–9.5	WTPH-D	25	**770**	—	—
B-9	B9-7.5	10/18/1993	7.5–9	WTPH-D	36	**49**	—	—
DW-1	DW1-5	9/28/1993	5–6.5	WTPH-D	30	BDL	—	—
DW-2	DW2-5	9/27/1993	5–6.5	WTPH-D	28	**18 J**	—	—
DW-3	DW3-7.5	9/29/1993	7.5–9	WTPH-D	30	**43**	—	—
MW-40	MW40-5	9/27/1993	5–6.5	WTPH-D	26	BDL	—	—
TPHTP-1	TPHTP-1-2	3/19/1999	2–2	NWTPH-Dx	10	**11.8**	25	**28.7**
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	NWTPH-Dx	110	**3,170**	275	**5,250**
TPHTP-3	TPHTP-3-2	3/19/1999	2–2	NWTPH-Dx	110	**743**	275	**1,810**
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	NWTPH-Dx	210	**18,200**	525	**12,500**
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	NWTPH-Dx	50	**748**	125	**2,490**
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	NWTPH-Dx	110	**850**	275	**1,820**
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	NWTPH-Dx	110	**7,180**	275	**6,240**

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-3 Summary of Soil TPH – Smear Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Outside Rail Yard								
1A-W-1	1A-W-1-10-12.5	12/5/2001	10–12.5	NWTPHD	5	**11**	10	**54**
1A-W-1	1A-W-1-12.5-15	12/5/2001	12.5–15	NWTPHD	5	BDL	10	BDL
1A-W-2	1A-W-2	12/4/2001	13–15	NWTPHD	28	**2,400**	56	**2,000**
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	TPHD-NWTPH-DX	—	—	85	**11,100**
1A-W-3	1A-W-3-8.5	12/6/2001	8.5–8.5	NWTPHD	690	**9,800**	1,400	**7,200**
1A-W-4	1A-W-4-10-12.5	12/5/2001	10–12.5	NWTPHD	5	BDL	10	BDL
1B-W-1	1B-W-1-15	12/7/2001	15–15	NWTPHD	28	**1,400 J**	57	**220 J**
1B-W-2	1B-W-2-10	1/8/2002	10–10	NWTPHD	5	**20**	10	**35**
1B-W-3	1B-W-3-14	12/19/2001	14–14	NWTPHD	5	BDL	10	BDL
1C-W-1	1C-W-1-13	12/17/2001	13–13	NWTPHD	27	**1,600**	54	**240**
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	TPHD-NWTPH-DX	17	**1,900**	—	—
1C-W-2	1C-W-2-10.5	12/10/2001	10.5–10.5	NWTPHD	5	BDL	10	BDL
1C-W-2	1C-W-2EC-10.5	12/10/2001	10.5–10.5	TPHD-NWTPH-DX	17	BDL	—	—
2A-B-17	2A-B-17-10	12/3/2001	10–10	NWTPHD	5	BDL	10	BDL
2A-B-18	2A-B-18-10	12/4/2001	10–10	NWTPHD	5	BDL	10	BDL
2A-W-1	2A-W-1-10-12.5	12/6/2001	10–12.5	NWTPHD	290	**7,600**	570	**5,600**
2A-W-1	2A-W-1-12.5-15	12/6/2001	12.5–15	NWTPHD	280	**8,300**	560	**5,800**
2A-W-1	2A-W-1-7.5-10	12/6/2001	7.5–10	NWTPHD	100	**880**	200	**1,900**
2A-W-2	2A-W-2-2-11	12/8/2001	11–11	NWTPHD	520	**7,000**	1,000	**5,200**
2A-W-6	2A-W-6-10-12.5	12/9/2001	10–12.5	NWTPHD	120	**1,600**	250	BDL
2A-W-6	2A-W-6-12.5-15	12/9/2001	12.5–15	NWTPHD	120	**1,300**	250	BDL
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	NWTPHD	260	**3,900**	53	**410 J**
2B-B-1	2B-B-1-6	1/8/2002	6–6	NWTPHD	5	**19**	10	**30**
2B-B-5	2B-B-5-11	12/10/2001	11–11	NWTPHD	5	**16 J**	10	**34 J**
2B-W-4	2B-W-4-7	12/17/2001	7–7	NWTPHD	5	**7.4**	10	**33**
3-B-1	3-B-1-5-7.5	12/17/2001	5–7.5	NWTPHD	5	BDL	10	BDL
3-B-1	3-B-1-7.5-10	12/17/2001	7.5–10	NWTPHD	5	BDL	10	BDL
3-B-2	3-B-2-12	12/14/2001	12–12	NWTPHD	5	BDL	10	BDL
4-B-1	4-B-1-11	12/8/2001	11–11	NWTPHD	5	BDL	10	BDL
5-B-1	5-B-1-11	12/3/2001	11–11	NWTPHD	5	BDL	10	BDL
5-B-3	5-B-3-8	12/15/2001	8–8	NWTPHD	280	**3,100**	560	**3,500**
5-B-3	5-B-3EC-8	12/15/2001	8–8	TPHD-NWTPH-DX	—	—	108	**10,100**
5-B-4	5-B-4-2	12/3/2001	2–2	NWTPHD	5	**27**	10	**48**
5-B-4	5-B-4-5	12/3/2001	5–5	NWTPHD	5	BDL	10	BDL
5-B-5	5-B-5-8	12/18/2001	8–8	NWTPHD	5	BDL	10	BDL
5-W-1	5-W-1-8	12/8/2001	8–8	NWTPHD	28	**3,400 J**	56	**3,000**
5-W-2	5-W-2-10-12.5	12/15/2001	10–12.5	NWTPHD	720	**13,000**	1,400	**9,600**
5-W-2	5-W-2-12.5-15	12/15/2001	12.5–15	NWTPHD	660	**12,000**	1,300	**9,100**
5-W-2	5-W-2-15-17.5	12/15/2001	15–17.5	NWTPHD	5	**91**	10	**64**
5-W-2	5-W-2-2.5-5	12/15/2001	2.5–5	NWTPHD	100	**2,900**	200	**5,400**
5-W-2	5-W-2-5-7.5	12/15/2001	5–7.5	NWTPHD	310	**5,700**	620	**8,200**
5-W-2	5-W-2-5-7.5-10	12/15/2001	7.5–10	NWTPHD	1,500	**33,000**	2,900	**26,000**
5-W-3	5-W-3-8.5	12/11/2001	8.5–8.5	NWTPHD	270	**12,000 J**	550	**9,200 J**
5-W-3	5-W-3EC-8.5	12/11/2001	8.5–8.5	TPHD-NWTPH-DX	—	—	85	**50,100**
5-W-4	5-W-4-10-12.5	12/9/2001	10–12.5	NWTPHD	5	**19**	10	**16**
5-W-4	5-W-4-2.5-5	12/9/2001	2.5–5	NWTPHD	5	**44**	10	**120**
5-W-4	5-W-4-5-7.5	12/9/2001	5–7.5	NWTPHD	1,000	**14,000**	2,000	**12,000**
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	NWTPHD	270	**2,400**	530	**1,700**
DW-4	DW4-7.5	9/27/1993	7.5–9	WTPH-D	298	**12,172**	—	—
MW-36	MW36-6	10/21/1993	6–7.5	WTPH-D	132	**3,600**	—	—
MW-36	MW36-7.5	10/21/1993	7.5–9	WTPH-D	34	**150**	—	—
MW-37	MW37-7.5	10/22/1993	7.5–9	WTPH-D	25	**740**	—	—
MW-37	MW37-12.5	10/21/1993	12.5–14	WTPH-D	25	**130**	—	—
MW-38	MW38-7.5	10/24/1993	7.5–9	WTPH-D	28	BDL	—	—

Table 7-3 Summary of Soil TPH – Smear Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)			TPH-MO (mg/kg)		
					DL	Result		DL	Result	
Outside Rail Yard (Continued)										
MW-39	MW39-10	10/18/1993	10–11.5	WTPH-D	30	**1,560**		—	—	
MW-42	SO-3-12	8/28/1996	12–12	WTPH-D Ex	5.4	BDL		11	BDL	
MW-42	SO-3-19	8/28/1996	19–19	WTPH-D Ex	6.1	BDL		12	BDL	
MW-43	SO-5-17	8/29/1996	17–17	WTPH-D Ex	6.6	BDL		13	BDL	
MW-43	SO-5-7	8/29/1996	7–7	WTPH-D Ex	5.2	BDL		10	BDL	
NC-1	NC-1-13	8/28/1996	13–0	WTPH-D Ex	5.8	BDL		12	BDL	
PZ-1	PZ-1-11.5-0901	9/20/2001	11.5–11.5	NWTPHD	100	**3,000**		200	**2,100**	
PZ-1	PZ-1-14-0901	9/20/2001	14–14	NWTPHD	100	**2,300**		200	**1,600**	
PZ-1	PZ-1-16.5-0901	9/20/2001	16.5–16.5	NWTPHD	100	**810**		200	**690**	
PZ-1	PZ-1-19-0901	9/20/2001	19–19	NWTPHD	25	**690**		50	**510**	
PZ-1	PZ-1-4-0901	9/20/2001	4–4	NWTPHD	5	**84**		10	**160**	
PZ-1	PZ-1-6.5-0901	9/20/2001	6.5–6.5	NWTPHD	5	**34**		10	**56**	
PZ-1	PZ-1-9-0901	9/20/2001	9–9	NWTPHD	50	**420**		100	**570**	
PZ-4	PZ-4-11.5-0901	9/22/2001	11.5–11.5	NWTPHD	5	**160**		10	**120**	
PZ-4	PZ-4-4-0901	9/22/2001	4–4	NWTPHD	10	**46**		20	**140**	
PZ-4	PZ-4-6.5-0901	9/22/2001	6.5–6.5	NWTPHD	10	**68**		20	**230**	
PZ-4	PZ-4-9-0901	9/22/2001	9–9	NWTPHD	50	**440**		100	**1,300**	
PZ-5	PZ-5-11.5-0901	9/20/2001	11.5–11.5	NWTPHD	5	**10**		10	BDL	
PZ-5	PZ-5-14-0901	9/20/2001	14–14	NWTPHD	10	**270**		20	**220**	
PZ-5	PZ-5-16.5-0901	9/20/2001	16.5–16.5	NWTPHD	50	**950**		100	**830**	
PZ-5	PZ-5-19-0901	9/20/2001	19–19	NWTPHD	25	**630**		50	**450**	
PZ-5	PZ-5-4-0901	9/20/2001	4–4	NWTPHD	50	**160**		100	**370**	
PZ-5	PZ-5-6.5-0901	9/20/2001	6.5–6.5	NWTPHD	5	**8.8**		10	**30**	
PZ-5	PZ-5-9-0901	9/20/2001	9–9	NWTPHD	200	**3,600**		400	**2,200**	
SO-1	SO-1	10/27/1995	5–5	WTPH-D Ex	5	**1,400**	**D**	10	**1,300**	**D**
SO-2	SO-2	10/27/1995	6.5–6.5	WTPH-D Ex	5	**470**	**D**	10	**330**	**D**
SO-4	SO-4-7	8/29/1996	7–7	WTPH-D Ex	—	BDL		—	BDL	
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	NWTPH-DX	210	**21,100**		525	**20,000**	
Rail Yard										
2A-B-11	2A-B-11-10-12.5	12/14/2001	10–12.5	NWTPHD	530	**9,700**		1,100	**6,000**	
2A-B-11	2A-B-11-12.5-15	12/14/2001	12.5–15	NWTPHD	260	**5,500**	**J**	530	**1,900**	**J**
2A-B-11	2A-B-11-15-17.5	12/14/2001	15–17.5	NWTPHD	5	**140**	**J**	10	**63**	**J**
2A-B-11	2A-B-11-17.5-20	12/14/2001	17.5–20	NWTPHD	5	**29**		10	**15**	
2A-B-11	2A-B-11-5-7.5	12/14/2001	5–7.5	NWTPHD	520	**12,000**		1,000	**11,000**	
2A-B-11	2A-B-11-7.5-10	12/14/2001	7.5–10	NWTPHD	530	**16,000**		1,100	**5,700**	
2A-B-12	2A-B-12-11	12/14/2001	11–11	NWTPHD	570	**23,000**	**J**	1,100	**5,200**	
2A-B-15	2A-B-15-11	12/11/2001	11–11	NWTPHD	5	BDL		10	**10**	
2A-B-16	2A-B-16-10-12.5	12/11/2001	10–12.5	NWTPHD	5	**43**		10	**51**	
2A-B-16	2A-B-16-12.5-15	12/11/2001	12.5–15	NWTPHD	5	**86**		10	**97**	
2A-B-16	2A-B-160	12/11/2001	14–14	NWTPHD	33	**160**		67	**180**	
2A-B-19	2A-B-19-7	12/18/2001	7–7	NWTPHD	5	BDL		10	BDL	
2A-B-5	2A-B-5-10-12.5	12/4/2001	10–12.5	NWTPHD	100	**1,800**		200	**1,600**	
2A-B-5	2A-B-5-12.5-15	12/4/2001	12.5–15	NWTPHD	140	**1,900**		270	**2,200**	
2A-B-5	2A-B-5-7.5-10	12/4/2001	7.5–10	NWTPHD	5	**60**		10	**71**	
2A-B-6	2A-B-6-2-5	12/5/2001	2–5	NWTPHD	630	**40,000**		1,300	**38,000**	
2A-B-6	2A-B-6-20	12/5/2001	20–20	NWTPHD	5	**71**		10	**60**	
2A-B-6	2A-B-6-5-15	12/5/2001	5–15	NWTPHD	200	**5,000**		400	**4,400**	
2A-B-7	2A-B-7-10-12.5	12/6/2001	10–12.5	NWTPHD	680	**20,000**		1,400	**20,000**	
2A-B-7	2A-B-7-12.5-15	12/6/2001	12.5–15	NWTPHD	250	**4,800**		500	**3,700**	
2A-B-7	2A-B-7-7.5-10	12/6/2001	7.5–10	NWTPHD	270	**3,200**		540	**2,400**	

Table 7-3 Summary of Soil TPH – Smear Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Rail Yard (Continued)								
2A-B-8	2A-B-8-9	12/13/2001	9–9	NWTPHD	670	**13,000**	1,300	**11,000**
2A-B-9	2A-B-9-15	12/13/2001	15–15	NWTPHD	5	**8.2**	10	BDL
2A-B-9	2A-B-9-5	12/13/2001	5–5	NWTPHD	300	**5,000**	610	**5,200**
2A-B-9	2A-B-9-7	12/13/2001	7–7	NWTPHD	530	**21,000**	1,100	**20,000**
2A-W-10	2A-W-10-5-7.5	12/12/2001	5–7.5	NWTPHD	100	**2,200**	200	**3,700**
2A-W-10	2A-W-10-7.5-10	12/12/2001	7.5–10	NWTPHD	5	**110**	10	**250**
2A-W-3	2A-W-3-10	12/12/2001	10–10	NWTPHD	100	**1,400 J**	200	**2,600**
2A-W-3	2A-W-3-17	12/12/2001	17–17	NWTPHD	280	**15,000**	560	**11,000**
2A-W-4	2A-W-4-13	12/16/2001	13–13	NWTPHD	260	**6,800**	520	**4,700**
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	NWTPHD	5	BDL	10	BDL
2A-W-5	2A-W-5-12.5-15	12/9/2001	12.5–15	NWTPHD	5	BDL	10	BDL
2A-W-5	2A-W-5-7.5-10	12/9/2001	7.5–10	NWTPHD	5	BDL	10	BDL
2A-W-7	2A-W-7-12	12/12/2001	12–12	NWTPHD	5	BDL	10	BDL
2A-W-9	2A-W-9-11	12/18/2001	11–11	NWTPHD	290	**11,000**	580	**10,000**
2B-B-2	2B-B-2-11	12/19/2001	11–11	NWTPHD	5	BDL	10	BDL
5-B-2	5-B-2-11	12/14/2001	11–11	NWTPHD	280	**4,600**	560	**6,300**
5-B-6	5-B-6-7	12/18/2001	7–7	NWTPHD	5	BDL	10	BDL
B-6	B6-10.5	10/19/1993	10.5–12	WTPH-D	25	**380**	—	—
B-7	B7-11	10/22/1993	11–12.5	WTPH-D	26	**884**	—	—
B-7	B7-17	10/21/1993	17–18.5	WTPH-D	299	**2,750**	—	—
B-8	B8-12	10/20/1993	12–13.5	WTPH-D	26	**880**	—	—
B-8	B8-17	10/20/1993	17–18.5	WTPH-D	26	**59**	—	—
B-10	B10-15	9/29/1993	15–16.5	WTPH-D	281	**2,800**	—	—
TPHTP-1	TPHTP-1-SZ	3/19/1999	10–10	NWTPH-DX	10	**25.8**	25	**59.1**
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	NWTPH-DX	110	**2,180**	275	**3,980**
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	NWTPH-DX	110	**718**	275	**1,880**
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	NWTPH-DX	210	**11,900**	525	**10,600**
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	NWTPH-DX	110	**6,030**	275	**8,970**
TPHTP-6	TPHTP-6-SZ	3/19/1999	9–9	NWTPH-DX	10	**112**	25	**49.1**
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	NWTPH-DX	210	**13,300**	525	**12,600**

Notes:
BDL - Below detection limit.
D -
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-4 Summary of Soil TPH – Saturated Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Outside Rail Yard								
1A-W-1	1A-W-1-15-17.5	12/5/2001	15–17.5	NWTPHD	5	BDL	10	BDL
1A-W-1	1A-W-1-17.5-20	12/5/2001	17.5–20	NWTPHD	5	BDL	10	BDL
1A-W-3	1A-W-3-15	12/6/2001	15–15	NWTPHD	5	BDL	10	BDL
1A-W-4	1A-W-4-20	12/5/2001	20–20	NWTPHD	5	BDL	10	BDL
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	TPHD-NWTPH-DX	20	BDL	—	—
1B-W-1	1B-W-1-21	12/7/2001	21–21	NWTPHD	5	BDL	10	BDL
1B-W-2	1B-W-2-16	1/8/2002	16–16	NWTPHD	5	**170**	10	**150**
1B-W-3	1B-W-3-19	12/19/2001	19–19	NWTPHD	5	BDL	10	BDL
1C-W-1	1C-W-1-19	12/17/2001	19–19	NWTPHD	5	**5.2**	10	BDL
1C-W-2	1C-W-2-20.5	12/10/2001	20.5–20.5	NWTPHD	5	BDL	10	BDL
2A-B-17	2A-B-17-12.5	12/3/2001	12.5–12.5	NWTPHD	5	**45**	10	**41**
2A-B-18	2A-B-18-12.5	12/4/2001	12.5–12.5	NWTPHD	5	BDL	10	BDL
2A-B-18	2A-B-18-15	12/4/2001	15–15	NWTPHD	5	BDL	10	BDL
2A-W-1	2A-W-1-17	12/6/2001	17–17	NWTPHD	5	BDL	10	**12**
2A-W-1	2A-W-1-20	12/6/2001	20–20	NWTPHD	5	BDL	10	BDL
2A-W-2	2A-W-2-20	12/8/2001	20–20	NWTPHD	5	BDL	10	BDL
2A-W-6	2A-W-6-15-17.5	12/9/2001	15–17.5	NWTPHD	5	**11**	10	BDL
2A-W-6	2A-W-6-17.5-20	12/9/2001	17.5–20	NWTPHD	5	BDL	10	BDL
2A-W-6	2A-W-6-20-22.5	12/9/2001	20–22.5	NWTPHD	5	BDL	10	BDL
2B-B-1	2B-B-1-11	1/8/2002	11–11	NWTPHD	5	BDL	10	BDL
2B-B-5	2B-B-5-15	12/10/2001	15–15	NWTPHD	5	BDL	10	BDL
2B-W-4	2B-W-4-19	12/17/2001	19–19	NWTPHD	5	**23**	10	**130**
3-B-1	3-B-1-15	12/17/2001	15–15	NWTPHD	5	BDL	10	BDL
3-B-2	3-B-2-15	12/14/2001	15–15	NWTPHD	5	BDL	10	BDL
3-B-3	3-B-3-15	12/10/2001	15–15	NWTPHD	5	BDL	10	BDL
3-B-3	3-B-3-20	12/10/2001	20–20	NWTPHD	5	BDL	10	BDL
3-B-3	3-B-3EC-20	12/10/2001	20–20	TPHD-NWTPH-DX	16	BDL	—	—
4-B-1	4-B-1-15	12/8/2001	15–15	NWTPHD	5	BDL	10	BDL
5-B-1	5-B-1-14	12/3/2001	14–14	NWTPHD	5	BDL	10	BDL
5-B-3	5-B-3-17	12/15/2001	17–17	NWTPHD	5	BDL	10	**17**
5-B-3	5-B-3EC-17	12/15/2001	17–17	TPHD-NWTPH-DX	—	—	109	BDL
5-B-4	5-B-4-10	12/3/2001	10–10	NWTPHD	5	BDL	10	BDL
5-B-5	5-B-5-19	12/18/2001	19–19	NWTPHD	5	BDL	10	BDL
5-W-1	5-W-1-15	12/8/2001	15–15	NWTPHD	5	BDL	10	BDL
5-W-2	5-W-2-20	12/15/2001	20–20	NWTPHD	5	BDL	10	BDL
5-W-3	5-W-3-19	12/11/2001	19–19	NWTPHD	5	BDL	10	BDL
5-W-3	5-W-3EC-19	12/11/2001	19–19	TPHD-NWTPH-DX	20	BDL	—	—
5-W-4	5-W-4-12.5-15	12/9/2001	12.5–15	NWTPHD	5	BDL	10	BDL
B-11	B11-10	9/27/1993	10–11.5	E418.1	115	BDL	—	—
B-12	B12-12.5	10/29/1993	12.5–14	E418.1	110	BDL	—	—
DW-4	DW4B-17.5	10/20/1993	17.5–19	E418.1	121	BDL	—	—
DW-5	DW5-17	10/23/1993	17–18.5	E418.1	136	BDL	—	—
MW-33	MW33-12.5	9/28/1993	12.5–14	E418.1	133	BDL	—	—
MW-34	MW34B-17	10/23/1993	17–18.5	E418.1	130	BDL	—	—
MW-35	MW35B-17.5	10/19/1993	17.5–19	E418.1	122	BDL	—	—
MW-36	MW36-17	10/21/1993	17–18.5	E418.1	121	BDL	—	—
MW-37	MW37-23	10/22/1993	23–24.5	E418.1	123	BDL	—	—
MW-38	MW38-12	10/24/1993	12–13.5	E418.1	126	BDL	—	—
MW-39	MW39-15.5	10/19/1993	15.5–17	E418.1	119	BDL	—	—
PZ-4	PZ-4-14-0901	9/22/2001	14–14	NWTPHD	5	BDL	10	BDL
PZ-4	PZ-4-16.5-0901	9/22/2001	16.5–16.5	NWTPHD	5	BDL	10	BDL
PZ-4	PZ-4-19-0901	9/22/2001	19–19	NWTPHD	5	BDL	10	**12**

Table 7-4 Summary of Soil TPH – Saturated Zone

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TPH-D (mg/kg)		TPH-MO (mg/kg)	
					DL	Result	DL	Result
Rail Yard								
2A-B-11	2A-B-11-20-22	12/14/2001	20–22	NWTPHD	5	BDL	10	BDL
2A-B-12	2A-B-12-17	12/14/2001	17–17	NWTPHD	5	BDL	10	BDL
2A-B-13	2A-B-13-17	12/10/2001	17–17	NWTPHD	5	BDL	10	BDL
2A-B-14	2A-B-14-15	12/10/2001	15–15	NWTPHD	5	BDL	10	BDL
2A-B-15	2A-B-15-15	12/11/2001	15–15	NWTPHD	5	**60 J**	10	**62 J**
2A-B-16	2A-B-16-21	12/11/2001	21–21	NWTPHD	5	BDL	10	BDL
2A-B-19	2A-B-19-19	12/18/2001	19–19	NWTPHD	5	BDL	10	BDL
2A-B-6	2A-B-6-30	12/5/2001	30–30	NWTPHD	5	BDL	10	BDL
2A-B-7	2A-B-7-20	12/6/2001	20–20	NWTPHD	5	BDL	10	BDL
2A-B-8	2A-B-8-15	12/13/2001	15–15	NWTPHD	5	BDL	10	BDL
2A-W-10	2A-W-10-12.5-15	12/12/2001	12.5–15	NWTPHD	5	**5 J**	10	**13 J**
2A-W-10	2A-W-10-16	12/12/2001	16–16	NWTPHD	5	BDL	10	BDL
2A-W-10	2A-W-10-21	12/12/2001	21–21	NWTPHD	5	BDL	10	BDL
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	TPHD-NWTPH-DX	17	BDL	—	—
2A-W-3	2A-W-3-25	12/12/2001	25–25	NWTPHD	5	BDL	10	**12**
2A-W-4	2A-W-4-20	12/16/2001	20–20	NWTPHD	5	BDL	10	BDL
2A-W-5	2A-W-5-15-23	12/9/2001	15–23	NWTPHD	5	BDL	10	BDL
2A-W-7	2A-W-7-23	12/12/2001	23–23	NWTPHD	5	BDL	10	BDL
2A-W-8	2A-W-8-22	12/12/2001	22–22	NWTPHD	5	BDL	10	BDL
2A-W-9	2A-W-9-19	12/18/2001	19–19	NWTPHD	5	BDL	10	BDL
2B-B-2	2B-B-2-19	12/19/2001	19–19	NWTPHD	5	BDL	10	BDL
2B-B-4	2B-B-4-5-6.5	12/7/2001	5–6.5	NWTPHD	5	**26 J**	10	**72 J**
2B-B-4	2B-B-4EC-7	12/17/2001	5–6.5	TPHD-NWTPH-DX	—	—	83	BDL
5-B-2	5-B-2-15	12/14/2001	15–15	NWTPHD	690	**10,000**	1,400	**8,000**
5-B-2	5-B-2-21	12/14/2001	21–21	NWTPHD	5	BDL	10	BDL
5-B-6	5-B-6-19	12/18/2001	19–19	NWTPHD	5	BDL	10	BDL
B-10	B10B-27	10/18/1993	27–28.5	E418.1	100	BDL	—	—
B-4B	B4B-17	10/24/1993	17–18.5	E418.1	112	BDL	—	—
B-5	B5-17	10/24/1993	17–18.5	E418.1	136	BDL	—	—
B-6	B6-23	10/18/1993	23–24.5	E418.1	100	BDL	—	—
B-7	B7-22	10/22/1993	22–23.5	E418.1	137	BDL	—	—
B-8	B8-22	10/20/1993	22–23.5	E418.1	137	BDL	—	—
B-9	B9-12.5	10/18/1993	12.5–14	E418.1	100	BDL	—	—
DW-1	DW1-22.5	9/28/1993	22.5–24	E418.1	132	BDL	—	—
DW-3	DW3-17.5	9/29/1993	17.5–19	E418.1	118	BDL	—	—
MW-40	MW40-12.5	9/27/1993	12.5–14	E418.1	117	BDL	—	—

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Tabe 7-5 Summary of Soil Metals Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Arsenic (mg/kg)			Lead (mg/kg)		
				DL	Result		DL	Result	
Outside Rail Yard									
1A-SS-1	1A-SS-1	11/29/2001	0–0.5	0.4	**9.9**		0.9	**716**	J
1A-SS-1	1A-SS-1EC-0-6	11/29/2001	0–0.5	—	**8.39**		—	**1,000**	
1A-SS-2	1A-SS-2	11/28/2001	0–0.5	0.3	**12.8**		0.8	**141**	J
1A-SS-3	1A-SS-3	12/4/2001	0–0.5	0.3	**6.3**	J	0.7	**469**	
1A-SS-4	1A-SS-4	11/29/2001	0–0.5	0.3	**9**		0.8	**130**	J
1A-SS-5	1A-SS-5	11/28/2001	0–0.5	0.3	**7.5**		0.8	**156**	J
1A-W-1	1A-W-1-M	12/5/2001	0–0.5	0.3	**5**		0.7	**43**	
1A-W-2	1A-W-2TOP	12/4/2001	0–0.5	0.3	**7.3**		0.8	**169**	
1A-W-3	1A-W-3-M	12/6/2001	0–0.5	0.3	**5.7**		0.7	**35**	
1A-W-4	1A-W-4-M	12/5/2001	0–0.5	0.3	**5**		0.7	**29**	
1B-SS-3	1B-SS-3	11/29/2001	0–0.5	0.4	**6.3**		0.9	**21**	J
1B-SS-4	1B-SS-4	12/4/2001	0–0.5	0.1	**2.4**	J	0.7	**24**	
1B-SS-5	1B-SS-5	11/29/2001	0–0.5	0.7	**14**		0.8	**420**	J
1B-SS-5	1B-SS-5EC-0-6	11/29/2001	0–0.5	—	**9.56**		—	**458**	
1B-SS-6	1B-SS-6	11/29/2001	0–0.5	0.3	**10.7**		0.7	**75**	J
1B-SS-7	1B-SS-7	12/4/2001	0–0.5	0.3	**16.7**	J	0.9	**126**	
1B-SS-8	1B-SS-8	11/29/2001	0–0.5	0.6	**19**		0.8	**148**	J
1B-W-1	1B-W-1-M	12/7/2001	0–0.5	0.3	**3.2**		0.7	**73**	
1B-W-2	1B-W-2-0-6	1/8/2002	0–0.5	0.3	**11.3**		0.8	**108**	
1C-SS-1	1C-SS-1	11/30/2001	0–0.5	0.4	**17.5**		0.8	**144**	J
1C-SS-10	1C-SS-10	11/30/2001	0–0.5	0.7	**19**		0.8	**49**	J
1C-SS-11	1C-SS-11	11/30/2001	0–0.5	0.4	**14.5**		1	**71**	J
1C-SS-14	1C-SS-14	11/30/2001	0–0.5	0.4	**9.3**		0.9	**64**	J
1C-SS-2	1C-SS-2	11/28/2001	0–0.5	0.4	**10.8**		1	**56**	J
1C-SS-3	1C-SS-3-0-6	1/16/2002	0–0.5	0.3	**11.7**	J	0.7	**331**	
1C-SS-4	1C-SS-4	11/28/2001	0–0.5	0.3	**13.5**		0.8	**143**	J
1C-SS-5	1C-SS-5	11/30/2001	0–0.5	0.7	**18**		0.8	**29**	J
1C-SS-6	1C-SS-6	11/30/2001	0–0.5	0.3	**12.6**		0.8	**174**	J
1C-SS-7	1C-SS-7	11/30/2001	0–0.5	0.7	**12**		0.8	**72**	J
1C-SS-8	1C-SS-8	11/30/2001	0–0.5	0.3	**11.6**		0.8	**52**	J
1C-SS-9	1C-SS-9-0-6	1/16/2002	0–0.5	0.3	**16.9**	J	0.7	**92**	
2A-W-1	2A-W-1-M	12/6/2001	0–0.5	0.3	**3.1**		2	**108**	
2B-B-1	2B-B-1-0-6	1/8/2002	0–0.5	0.3	**12.4**		0.8	**24**	
2B-SS-3	2B-SS-3	12/4/2001	0–0.5	0.4	**15.3**	J	1	**41**	
2B-SS-5	2B-SS-5	11/29/2001	0–0.5	0.3	**17.1**		0.9	**86**	J
2B-SS-5	2B-SS-5EC-0-6	11/29/2001	0–0.5	—	**11.5**		—	**92.3**	
2B-SS-6	2B-SS-6-0-6	1/16/2002	0–0.5	0.4	**10.9**	J	0.8	**64**	
2B-W-4	2B-W-4-0-2	12/17/2001	0–2	0.3	**11.3**		0.7	**27**	
3-B-1	3-B-1-0-6	12/17/2001	0–0.5	0.3	**7.7**		0.7	**21**	
3-SS-2	3-SS-2	11/29/2001	0–0.5	0.3	**9.3**		0.8	**16**	J
3-SS-2	3-SS-2EC-0-6	11/29/2001	0–0.5	—	**7.23**		—	**21**	
4-B-1	4-B-1	12/8/2001	0–0.5	0.3	**4.5**		0.7	**20**	
4-SS-1	4-SS-1	12/4/2001	0–2	1	**54**	J	2	**20**	
4-SS-3	4-SS-3	11/30/2001	0–2	0.3	**6.5**		0.8	**170**	J
4-SS-4	4-SS-4	11/30/2001	0–2	0.6	**7**		0.7	**19**	J
4-SS-5	4-SS-5-0-6	1/16/2002	0–2	0.3	**12.8**	J	0.8	**120**	
4-SS-7	4-SS-7	11/29/2001	0–2	0.3	**10.8**		0.9	**243**	J
4-SS-7	4-SS-7EC-0-6	11/29/2001	0–2	—	**6.23**		—	**632**	
4-SS-8	4-SS-8	11/30/2001	0–2	0.7	**11**		0.8	**97**	J
4-SS-9	4-SS-9	11/30/2001	0–2	0.3	**6**		0.7	**108**	J
5-B-4	5-B-4	12/3/2001	0–0.5	0.3	**10.7**		0.8	**38**	
5-B-5	5-B-5-0-6	12/18/2001	0–0.5	0.3	**6.6**	J	0.7	**57**	
5-B-5	5-B-5-12-18	12/18/2001	1–1.5	0.3	**11.9**	J	0.8	**32**	

Tabe 7-5 Summary of Soil Metals Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Arsenic (mg/kg)			Lead (mg/kg)		
				DL	Result		DL	Result	
Outside Rail Yard (Continued)									
5-SS-1	5-SS-1	11/28/2001	0–0.5	0.3	**11.4**		0.8	**107**	J
5-SS-10	5-SS-10	11/28/2001	0–0.5	0.3	**9**		0.7	**144**	J
5-SS-11	5-SS-11	11/29/2001	0–0.5	0.3	**10**		0.7	**44**	J
5-SS-11	5-SS-11EC-0-6	11/29/2001	0–0.5	—	**11.2**		—	**75.9**	
5-SS-13	5-SS-13	11/28/2001	0–0.5	0.4	**11.4**		1	**139**	J
5-SS-14	5-SS-14	11/28/2001	0–0.5	0.3	**7.7**		0.8	**41**	J
5-SS-15	5-SS-15	11/28/2001	0–0.5	0.4	**14.8**		0.9	**16**	J
5-SS-16	5-SS-16	11/28/2001	0–0.5	0.4	**15.6**		1	**229**	J
5-SS-17	5-SS-17	11/28/2001	0–0.5	0.3	**10**		0.8	**101**	J
5-SS-2	5-SS-2	11/28/2001	0–0.5	0.6	**20**		0.8	**40**	J
5-SS-3	5-SS-3	11/28/2001	0–0.5	0.4	**7.2**		0.9	**19**	J
5-SS-4	5-SS-4	11/28/2001	0–0.5	0.3	**7.5**		0.8	**6**	J
5-SS-5	5-SS-5	11/29/2001	0–0.5	0.7	**11**		0.8	**64**	J
5-SS-5	5-SS-5EC-0-6	11/29/2001	0–0.5	—	**8.79**		—	**61.2**	
5-SS-6	5-SS-6	11/27/2001	0–0.5	0.4	**14.9**		0.8	**191**	J
5-SS-7	5-SS-7	11/27/2001	0–0.5	0.4	**12.8**		0.9	**151**	J
5-SS-8	5-SS-8	11/29/2001	0–0.5	0.3	**5.5**		0.8	**19**	J
5-SS-8	5-SS-8EC-0-6	11/29/2001	0–0.5	—	**4.48**		—	**24**	
5-SS-9	5-SS-9	11/27/2001	0–0.5	0.4	**7.7**		0.9	**502**	J
B-11	B11-0	9/27/1993	0–0.5	—	**11.2**		—	**1,897**	
B-12	B12-0	10/29/1993	0–0.5	—	**5.5**		—	**9**	
DW-4	DW4-0	9/27/1993	0–0.5	—	BDL		—	**29**	
DW-5	DW5-0	10/23/1993	0–0.5	—	**7.3**		—	**6**	
HA-1	HA1-2	10/7/1993	1–2	—	**9**		—	**20.9**	
HA-2	HA2-1	10/7/1993	1–1.5	—	**8**		—	**550**	
HA-3	HA3-1	10/7/1993	0–1	—	**12**		—	**116**	
HA-4	HA4-0	10/7/1993	0–1	—	**7**		—	**196**	
MW-33	MW33-0	9/28/1993	0–0.5	—	**3**		—	**211**	
MW-34	MW34-0	9/28/1993	0–0.5	—	**8.4**		—	**9**	
MW-35	MW35-0	9/28/1993	0–0.5	—	**10**		—	**3.6**	
MW-36	MW36-0	10/21/1993	0–0.5	—	**0.1**		—	**78.5**	
MW-37	MW37-0	10/21/1993	0–0.5	—	**8**		—	**104**	
MW-38	MW38-0	10/23/1993	0–0.5	—	**8.7**		—	**48**	
MW-39	MW39-0	10/19/1993	0–0.5	—	**4**		—	**37.8**	
PZ-1	PZ-1-0901-A	9/20/2001	0–0.5	5	BDL		2	**90**	
PZ-3	PZ-3-0901	9/21/2001	0–0.5	5	**5**		2	**23**	
PZ-4	PZ-4-0901-A	9/22/2001	0–0.5	5	**8**		2	**28**	
PZ-5	PZ-5-0901-A	9/20/2001	0–0.5	5	**6**		2	**6**	
SS-17	SS17-0	9/30/1993	0–0.5	—	**18**		—	**79.1**	
SS-18	SS18-0	9/30/1993	0–0.5	—	**12**		—	**133**	
Rail Yard									
2A-B-1	2A-B-1-0-2	12/16/2001	0–2	0.3	**3**		0.8	**13**	
2A-B-1	2A-B-1-2-4	12/16/2001	2–4	0.3	**2.2**		0.7	**4**	
2A-B-19	2A-B-19-0-2	12/18/2001	0–2	0.6	**16**	J	0.7	**67**	
2A-B-2	2A-B-2-0-2	12/16/2001	0–2	0.3	**5.7**		0.8	**23**	
2A-B-2	2A-B-2-2-4	12/16/2001	2–4	0.3	**3.5**		0.7	**12**	
2A-B-5	2A-B-5-15:40	12/4/2001	0–2	0.1	**4.3**	J	0.7	**80**	
2A-B-6	2A-B-6-M	12/5/2001	0–2	0.2	**2.5**		0.8	**105**	
2A-B-7	2A-B-7-M	12/6/2001	0–2	0.3	**4**		0.8	**86**	
2A-B-8	2A-B-8-0-3	12/13/2001	0–3	0.3	**7.6**		0.8	**136**	
2A-B-9	2A-B-9-5	12/13/2001	5–5	0.3	**3.9**		0.8	**23**	

Tabe 7-5 Summary of Soil Metals Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Arsenic (mg/kg)			Lead (mg/kg)		
				DL	Result		DL	Result	
Rail Yard (Continued)									
2A-GS-27	2A-GS-27	12/11/2001	0–2	20	**330**		0.8	**129**	
2A-GS-28	2A-GS-28	12/11/2001	0–2	0.2	**1.4**		0.8	**34**	
2A-GS-29	2A-GS-29	12/11/2001	0–2	3	**52**		0.7	**109**	
2A-GS-30	2A-GS-30	12/11/2001	0–2	0.2	BDL		0.8	**9**	
2A-GS-31	2A-GS-31	12/11/2001	0–2	3	**86**		0.7	**53**	
2A-GS-32	2A-GS-32	12/11/2001	0–2	0.3	**2.9**		0.8	**15**	
2A-GS-33	2A-GS-33	12/19/2001	0–2	0.3	**2.8**		0.6	**561**	
2A-GS-34	2A-GS-34	12/11/2001	0–0.6	0.6	**7**		0.7	**144**	
2A-GS-35	2A-GS-35	12/19/2001	0–2	0.3	**5.7**		0.7	**219**	
2A-GS-36	2A-GS-36	12/19/2001	0–2	0.3	**8.1**		0.8	**54**	
2A-GS-38	2A-GS-38	12/10/2001	0–2	0.3	**5.8**		0.7	**108**	**J**
2A-GS-39	2A-GS-39	12/11/2001	0–2	0.3	**4.3**		0.7	**78**	
2A-GS-40	2A-GS-40	12/10/2001	0–2	0.3	**4.9**		0.7	**52**	**J**
2A-GS-41	2A-GS-41	12/11/2001	0–1.5	0.07	BDL		0.8	**33**	
2A-GS-43	2A-GS-43	12/11/2001	0–2	0.7	**21**		0.8	**190**	
2A-GS-44	2A-GS-44	12/11/2001	0–2	0.3	**5.8**		0.7	**46**	
2A-GS-45	2A-GS-45	12/19/2001	0–2	0.3	**14.1**		0.7	**139**	
2A-GS-46	2A-GS-46	12/19/2001	0–2	0.3	**2.9**		0.7	**240**	
2A-GS-47	2A-GS-47	12/19/2001	0–2	0.3	**4.4**		0.6	**102**	
2A-GS-48	2A-GS-48	12/19/2001	0–2	0.3	**2.8**		0.7	**26**	
2A-GS-49	2A-GS-49	12/19/2001	0–2	0.6	**5**		0.7	**193**	
2A-GS-50	2A-GS-50	12/4/2001	0–1.5	0.3	**12.1**	**J**	0.8	**141**	
2A-GS-50	2A-GS-50EC-0-2	12/4/2001	0–1.5	—	**17.4**		—	**193**	
2A-GS-51	2A-GS-51	12/19/2001	0–2	0.3	**12.5**		0.8	**29**	
2A-GS-51	2A-GS-51EC-0-2	12/19/2001	0–2	—	**14.5**		—	**56.8**	
2A-GS-52	2A-GS-52	12/10/2001	0–2	0.3	**5.3**		0.7	**60**	**J**
2A-GS-53	2A-GS-53	12/10/2001	0–2	0.3	**8.6**		0.7	**30**	**J**
2A-GS-54	2A-GS-54	12/10/2001	0–2	0.3	**3.4**		0.7	**11**	**J**
2A-GS-55	2A-GS-55	12/11/2001	0–2	0.3	**3.7**	**J**	0.8	**125**	**J**
2A-GS-56	2A-GS-56	12/10/2001	0–2	0.3	**4.6**		0.7	**179**	**J**
2A-GS-57	2A-GS-57	12/10/2001	0–1.2	0.7	**9**		0.8	**113**	**J**
2A-GS-58	2A-GS-58	12/19/2001	0–2	0.6	**8**		0.7	**304**	
2A-GS-59	2A-GS-59	12/10/2001	0–2	0.2	**2.9**		0.8	**123**	**J**
2A-GS-60	2A-GS-60	12/10/2001	0–2	0.3	**3.4**		0.8	**184**	**J**
2A-GS-62	2A-GS-62	12/11/2001	0–2	0.2	**1.4**		0.8	**99**	
2A-GS-63	2A-GS-63	12/19/2001	0–2	0.3	**11.4**		0.7	**73**	
2A-GS-64	2A-GS-64-0-2	1/16/2002	0–2	0.3	**11.3**	**J**	0.7	**150**	
2A-GS-65	2A-GS-65	12/19/2001	0–2	0.3	**4.7**		0.7	**234**	
2A-GS-66	2A-GS-66-0-2	1/16/2002	0–2	0.3	**5.7**	**J**	0.8	**28**	
2A-GS-67	2A-GS-67-0-2	1/16/2002	0–2	0.3	**6.7**	**J**	0.7	**61**	
2A-GS-68	2A-GS-68-0-2	1/16/2002	0–2	0.3	**4.5**	**J**	0.7	**11**	
2A-GS-69	2A-GS-69	12/19/2001	0–2	0.7	**6**		0.7	**29**	
2A-GS-69	2A-GS-69EC-0-2	12/19/2001	0–2	—	**7.73**		—	**37.8**	
2A-GS-70	2A-GS-70	12/10/2001	0–2	0.3	**4.2**		0.7	**17**	**J**
2A-GS-71	2A-GS-71	12/19/2001	0–2	0.3	**3.6**		0.7	**12**	
2A-GS-72	2A-GS-72	12/10/2001	0–2	0.3	**3.9**		0.7	**10**	**J**
2A-GS-73	2A-GS-73	12/10/2001	0–2	0.4	**10.2**		0.9	**648**	**J**
2A-GS-74	2A-GS-74	12/10/2001	0–2	0.3	**7.8**		0.7	**117**	**J**
2A-GS-75	2A-GS-75	12/10/2001	0–2	0.3	**6.1**		0.8	**34**	**J**
2A-GS-76	2A-GS-76	12/10/2001	0–2	0.3	**4.3**		0.7	**60**	**J**
2A-GS-77	2A-GS-77	12/10/2001	0–2	0.3	**9.7**		0.7	**58**	**J**
2A-GS-78	2A-GS-78	12/10/2001	0–2	0.3	**8.1**		0.7	**224**	**J**
2A-GS-79	2A-GS-79	12/10/2001	0–2	0.4	**6.9**		2	**407**	**J**

Tabe 7-5 Summary of Soil Metals Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Arsenic (mg/kg)			Lead (mg/kg)		
				DL	Result		DL	Result	
Rail Yard (Continued)									
2A-GS-80	2A-GS-80	12/10/2001	0–2	0.3	**4.7**		0.8	**172**	J
2A-GS-81	2A-GS-81	12/11/2001	0–2	0.3	**13**		0.8	**72**	
2A-GS-82	2A-GS-82	12/10/2001	0–2	0.3	**6.8**		0.7	**136**	J
2A-GS-83	2A-GS-83	12/10/2001	0–2	0.1	**3**		0.7	**287**	J
2A-GS-84	2A-GS-84	12/10/2001	0–2	0.3	**5**		0.7	**257**	J
2A-GS-85	2A-GS-85	12/10/2001	0–2	0.3	**6.6**		0.7	**122**	J
2A-GS-86	2A-GS-86	12/10/2001	0–2	0.4	**8**		0.9	**45**	J
2A-GS-87	2A-GS-87	12/10/2001	0–2	0.3	**6**		0.8	**218**	J
2A-GS-88	2A-GS-88	12/10/2001	0–2	0.4	**9.5**		0.9	**40**	J
2A-GS-89	2A-GS-89	12/11/2001	0–1.5	0.4	**9.4**		0.9	**56**	
2A-GS-90	2A-GS-90	12/11/2001	0–2	0.3	**8.7**		0.8	**86**	
2A-GS-91	2A-GS-91	12/10/2001	0–2	0.4	**12.6**		0.8	**47**	J
2A-GS-92	2A-GS-92	12/11/2001	0–2	0.3	**6.7**		0.8	**24**	
2A-W-5	2A-W-5-0-2	12/9/2001	0–2	0.3	**2.8**		0.7	**201**	
2A-W-5	2A-W-5-2.5-5	12/9/2001	2.5–5	0.3	**9**		0.8	**2,660**	
2A-W-5	2A-W-5-5-7.5	12/9/2001	5–7.5	0.3	**4.7**		0.7	**314**	
2B-B-2	2B-B-2-0-2	12/19/2001	0–2	0.3	**7.3**		0.8	**22**	
2B-B-4	2B-B-4-0-6	12/7/2001	0–0.5	0.4	**9.7**		2	**136**	
4-GS-10	4-GS-10-0-2	1/16/2002	0–2	2	**41**	J	0.8	**133**	
4-GS-11	4-GS-11	12/14/2001	0–2	0.4	**12.4**		0.9	**219**	
4-GS-12	4-GS-12-0-2	1/16/2002	0–2	7	**180**	J	0.8	**711**	
4-GS-14	4-GS-14	12/14/2001	0–2	0.3	**7**		0.9	**222**	
4-GS-15	4-GS-15-0-2	1/16/2002	0–2	2	**35**	J	0.8	**95**	
4-GS-16	4-GS-16	12/14/2001	0–2	3	**47**		0.8	**171**	
4-GS-17	4-GS-17-0-2	1/16/2002	0–2	0.3	**5.1**	J	0.7	**49**	
4-GS-18	4-GS-18-0-2	1/16/2002	0–2	2	**42**	J	0.7	**40**	
4-GS-19	4-GS-19	12/13/2001	0–1.5	0.3	**3.7**		0.7	**44**	
4-GS-20	4-GS-20	12/13/2001	0–2	0.3	**5.4**		0.7	**157**	
4-GS-21	4-GS-21	12/13/2001	0–2	0.7	**24**		0.8	**196**	
4-GS-22	4-GS-22	12/13/2001	0–2	0.3	**8.7**		0.7	**87**	
4-GS-23	4-GS-23	12/15/2001	0–2	3	**63**		2	**391**	
4-GS-24	4-GS-24	12/15/2001	0–2	0.3	**8.8**		0.7	**41**	
4-GS-25	4-GS-25	12/15/2001	0–1.5	1	**19**	J	2	**113**	
4-GS-26	4-GS-26-0-2	1/16/2002	0–2	0.3	**14.1**	J	0.8	**158**	
4-GS-9	4-GS-9	12/14/2001	0–2	0.3	**7.1**		0.8	**93**	
4-GS-13	4A-GS-13-0-2	1/16/2002	0–2	0.3	**13.6**	J	0.8	**194**	
5-B-6	5-B-6-0-2	12/18/2001	0–2	0.6	**13**	J	0.7	**91**	
5-GS-1	5-GS-1	12/13/2001	0–1.5	0.4	**6.8**		1	**1,290**	
5-GS-2	5-GS-2	12/13/2001	0–2	0.4	**8.2**		0.8	**40**	
5-GS-3	5-GS-3	12/13/2001	0–2	0.3	**7.8**		0.8	**402**	
5-GS-4	5-GS-4	12/13/2001	0–2	0.4	**17.7**		0.9	**147**	
5-GS-5	5-GS-5	12/14/2001	0–2	0.3	**5.7**		0.7	**58**	
5-GS-6	5-GS-6	12/14/2001	0–1	0.3	**9.8**		2	**150**	
5-GS-7	5-GS-7	12/14/2001	0–2	0.3	**8.2**		0.8	**21**	
5-GS-8	5-GS-8	12/14/2001	0–2	0.3	**15.6**		0.7	**227**	
B1	B1-4	11/7/1991	4–4	—	**4**		—	**9.1**	
B-10	B10-0	9/29/1993	0–0.5	—	**10**		—	**11.3**	
B2	B2-4	11/7/1991	4–4	—	**7.2**		—	**7.9**	
B3	B3-4	11/7/1991	4–4	—	**3.7**		—	**7.6**	

Tabe 7-5 Summary of Soil Metals Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Arsenic (mg/kg)		Lead (mg/kg)	
				DL	Result	DL	Result
Rail Yard (Continued)							
B-4	B4-0	9/28/1993	0–0.5	—	**4.8**	—	**125**
B-5	B5-0	10/24/1993	0–0.5	—	**11.7**	—	**99**
B-6	B6-0	10/18/1993	0–0.5	—	**9**	—	**480**
B-6	B6-10.5	10/19/1993	10.5–12	—	**3**	—	**4.2**
B-7	B7-0	10/22/1993	0–.5	—	**9.7**	—	**102**
B-8	B8-0	10/20/1993	0–0.5	—	**7**	—	**133**
B-9	B9-0	10/18/1993	0–0.5	—	**6**	—	**3,600**
BG-1	BG1-0	10/1/1993	0–0.5	—	**7**	—	**15.7**
BG-2	BG2-0	9/30/1993	0–0.5	—	**31**	—	**28.2**
DW-1	DW1-0	9/28/1993	0–0.5	—	**6.1**	—	**79**
DW-2	DW2-0	9/27/1993	0–0.5	—	**11**	—	**337**
DW-3	DW3-0	9/29/1993	0–0.5	—	**17**	—	**179**
MW-29	MW29-4	11/7/1991	4–4	—	**3.9**	—	**11**
MW-30	MW30-4	11/6/1991	4–4	—	**2.6**	—	**3.8**
MW-31	MW31-4	11/7/1991	4–4	—	**27**	—	**1,100**
MW-40	MW40-0	9/27/1993	0–0.5	—	**5.8**	—	**283**
SS-10	SS10-0	4/11/1991	0–0	—	—	—	**1,800**
SS-11	SS11-0	4/11/1991	0–0	—	—	—	**710**
SS-13	SS13-0	9/30/1993	0–0.5	—	**14**	—	**106**
SS-14	SS14-0	9/30/1993	0–0.5	—	**12**	—	**67.4**
SS-15	SS15-0	9/30/1993	0–0.5	—	**19**	—	**196**
SS-16	SS16-0	9/30/1993	0–0.5	—	**22**	—	**1,300**
SS-19	SS19-0	9/30/1993	0–0.5	—	**64**	—	**660**
SS-19.1	SS19.1-0	9/30/1993	0–0.5	—	**48**	—	**357**
SS-20	SS20-0	10/1/1993	0–0.5	—	**6**	—	**119**
SS-21	SS21-0	9/30/1993	0–0.5	—	**20**	—	**425**
SS-22	SS22-0	9/30/1993	0–0.5	—	**24**	—	**222**
SS-23	SS23-0	9/30/1993	0–0.5	—	**21**	—	**156**
SS-24	SS24-0	9/30/1993	0–0.5	—	**10**	—	**28.4**
SS-25	SS25-0	10/1/1993	0–0.5	—	**9**	—	**268**
SS-26	SS26-0	10/1/1993	0–0.5	—	**20**	—	**110**
SS-27	SS27-0	9/30/1993	0–0.5	—	**11**	—	**151**
SS-28	SS28-0	9/28/1993	0–0.5	—	**8**	—	**920**
SS-29	SS29-0	9/30/1993	0–0.5	—	**21**	—	**402**
SS-30	SS30-0	9/30/1993	0–0.5	—	**20**	—	**18.3**
SS-31	SS31-0	9/30/1993	0–0.5	—	**24**	—	**11.9**
SS-32	SS32-0	9/30/1993	0–0.5	—	**6**	—	**9.7**
TP-1	TP1-1	11/8/1991	1–1	—	**12**	—	**51**
TP-2	TP2-1	11/8/1991	1–1	—	**8.3**	—	**64**
Summary Statistics							
Samples				—	238	—	240
Detects				—	235	—	240
Maximum Detected Concentration				—	330	—	3,600
Minimum Detected Concentration				—	0.1	—	3.6
Average Detected Concentration				—	13.3	—	188.8

Notes:
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-6 Summary of Soil PCB Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aroclor 1016 (mg/kg)		Aroclor 1221 (mg/kg)		Aroclor 1232 (mg/kg)		Aroclor 1242 (mg/kg)		Aroclor 1248 (mg/kg)		Aroclor 1254 (mg/kg)		Aroclor 1260 (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Outside Rail Yard																	
1A-W-1	1A-W-1-P1	12/5/2001	0–0.5	0.035	BDL	0.07	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL
1A-W-1	1A-W-1-P2	12/5/2001	1–1.5	0.036	BDL	0.071	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	0.0068	BDL	0.0068	BDL	0.0068	BDL	0.0068	BDL	0.0068	BDL	0.0068	BDL	0.0068	BDL
1A-W-4	1A-W-4	12/5/2001	11–11	0.045	BDL	0.089	BDL	0.045	BDL	0.045	BDL	0.045	BDL	0.045	BDL	0.045	BDL
2A-W-1	2A-W-1-PCB1	12/6/2001	0–0.5	0.036	BDL	0.073	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
2A-W-1	2A-W-1-PCB2	12/6/2001	1–1.5	0.036	BDL	0.072	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
2A-W-2	2A-W-2-0-6	12/8/2001	0–0.5	0.034	BDL	0.069	BDL	0.034	BDL	0.034	BDL	0.034	BDL	0.034	BDL	0.034	BDL
2A-W-2	2A-W-2-12-18	12/8/2001	1–1.5	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
3-B-1	3-B-1-15	12/17/2001	15–15	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
3-B-1	3-B-1-5-7.5	12/17/2001	5–7.5	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
3-B-1	3-B-1-7.5-10	12/17/2001	7.5–10	0.036	BDL	0.072	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
3-B-1	3-B-1-0-2.5	12/17/2001	0–2.5	0.044	BDL	0.087	BDL	0.044	BDL	0.044	BDL	0.044	BDL	0.044	BDL	0.044	BDL
3-B-1	3-B-1-2.5-5	12/17/2001	2.5–5	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
3-B-2	3-B-2-0-6	12/14/2001	0–0.5	0.036	BDL	0.071	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
3-B-2	3-B-2-12-18	12/14/2001	1–1.5	0.035	BDL	0.071	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL
3-B-2	3-B-2-6	12/14/2001	6–6	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
3-B-3	3-B-3-15	12/10/2001	15–15	0.036	BDL	0.072	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
3-B-3	3-B-3-20	12/10/2001	20–20	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
3-B-3	3-B-3EC-20	12/10/2001	20–20	0.0054	BDL	0.0054	BDL	0.0054	BDL	0.0054	BDL	0.0054	BDL	0.0054	BDL	0.0054	BDL
3-B-3	3-B-3-0-2	12/10/2001	0–2	0.036	BDL	0.073	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
3-B-3	3-B-3-7	12/10/2001	7–7	0.036	BDL	0.073	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
4-B-1	4-B-1-15	12/8/2001	15–15	0.036	BDL	0.073	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
4-B-1	4-B-1-11	12/8/2001	11–11	0.04	BDL	0.08	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL
4-B-1	4-B-1-0-2	12/8/2001	0–2	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
5-B-4	5-B-4-PCB5	12/3/2001	5–5	0.039	BDL	0.077	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
5-B-4	5-B-4-PCB-2	12/3/2001	2–2	0.045	BDL	0.09	BDL	0.045	BDL	0.045	BDL	0.045	BDL	0.045	BDL	0.045	BDL
5-W-1	5-W-1-0-6	12/8/2001	0–0.5	0.035	BDL	0.069	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL
5-W-1	5-W-1-12-18	12/8/2001	1–1.5	0.038	BDL	0.077	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
5-W-4	5-W-4-0-6	12/9/2001	0–0.5	0.035	BDL	0.07	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL
5-W-4	5-W-4-12-18	12/9/2001	1–1.5	0.036	BDL	0.072	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
PZ-4	PZ-4-0901-A	9/22/2001	0–0.5	0.00093	BDL	0.0022	BDL	0.00048	BDL	0.00057	BDL	0.00037	BDL	0.0011	BDL	0.00091	BDL
SS-17	SS17-0	9/30/1993	0–0.5	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.2	BDL	0.2	BDL
SS-18	SS18-0	9/30/1993	0–0.5	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.168	BDL	0.168	BDL
SS-70	SS-70-0801	8/7/2001	0–0.5	0.035	BDL	0.07	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL	0.035	BDL
SS-71	SS-71-0801	8/7/2001	0–0.5	0.041	BDL	0.082	BDL	0.041	BDL	0.041	BDL	0.041	BDL	0.041	BDL	0.041	BDL

Table 7-6 Summary of Soil PCB Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aroclor 1016 (mg/kg)		Aroclor 1221 (mg/kg)		Aroclor 1232 (mg/kg)		Aroclor 1242 (mg/kg)		Aroclor 1248 (mg/kg)		Aroclor 1254 (mg/kg)		Aroclor 1260 (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Rail Yard																	
2A-B-1	2A-B-1-15-20	12/16/2001	15–20	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-1	2A-B-1-7.5-10	12/16/2001	7.5–10	0.039	BDL	0.078	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
2A-B-1	2A-B-1-0-2	12/16/2001	0–2	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
2A-B-1	2A-B-1-0.5-2.5	12/16/2001	.5–2.5	0.037	BDL	0.075	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-1	2A-B-1-2.5-5	12/16/2001	2.5–5	0.037	BDL	0.075	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-1	2A-B-1-5.0-7.5	12/16/2001	5–7.5	0.038	BDL	0.077	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
2A-B-2	2A-B-2-15-20	12/16/2001	15–20	0.038	BDL	0.077	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
2A-B-2	2A-B-2-7.5-10	12/16/2001	7.5–10	0.041	BDL	0.081	BDL	0.041	BDL	0.041	BDL	0.041	BDL	0.041	BDL	0.041	BDL
2A-B-2	2A-B-2-0-6	12/16/2001	0–0.5	0.048	BDL	0.096	BDL	0.048	BDL	0.048	BDL	0.048	BDL	0.048	BDL	0.048	BDL
2A-B-2	2A-B-2-0.5-2.5	12/16/2001	0.5–2.5	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
2A-B-2	2A-B-2-2.5-5	12/16/2001	2.5–5	0.038	BDL	0.076	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL	0.038	BDL
2A-B-2	2A-B-2-5-7.5	12/16/2001	5–7.5	0.036	BDL	0.073	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
2A-B-3	2A-B-3-15-20	12/16/2001	15–20	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-3	2A-B-3-7.5-10	12/16/2001	7.5–10	0.04	BDL	0.08	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL
2A-B-3	2A-B-3-0-6	12/16/2001	0–0.5	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-3	2A-B-3-0.5-2.5	12/16/2001	0.5–2.5	0.039	BDL	0.078	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
2A-B-3	2A-B-3-2.5-5	12/16/2001	2.5–5	0.037	BDL	0.075	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-3	2A-B-3-5-7.5	12/16/2001	5–7.5	0.039	BDL	0.077	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
2A-B-4	2A-B-4-15-20	12/16/2001	15–20	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-4	2A-B-4-7.5-10	12/16/2001	7.5–10	0.04	BDL	0.079	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL
2A-B-4	2A-B-4-0-6	12/16/2001	0–0.5	0.044	BDL	0.088	BDL	0.044	BDL	0.044	BDL	0.044	BDL	0.044	BDL	0.044	BDL
2A-B-4	2A-B-4-0.5-2.5	12/16/2001	0.5–2.5	0.043	BDL	0.086	BDL	0.043	BDL	0.043	BDL	0.043	BDL	0.043	BDL	0.043	BDL
2A-B-4	2A-B-4-2.5-5	12/16/2001	2.5–5	0.037	BDL	0.075	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
2A-B-4	2A-B-4-5-7.5	12/16/2001	5–7.5	0.039	BDL	0.078	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	0.039	BDL	0.078	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	0.0062	BDL	0.0062	BDL	0.0062	BDL	0.0062	BDL	0.0062	BDL	0.0062	BDL	0.0062	BDL
2A-W-10	2A-W-10-2-4	12/12/2001	2–4	0.039	BDL	0.079	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL	0.039	BDL
5-B-2	5-B-2-0-6	12/14/2001	0–0.5	0.036	BDL	0.072	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL	0.036	BDL
5-B-2	5-B-2-12-18	12/14/2001	1–1.5	0.037	BDL	0.074	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL	0.037	BDL
B-4	B4-0	9/28/1993	0–0.5	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.17	**0.086 J**	0.17	BDL
B-4	B4-2	9/28/1993	2–3.5	0.092	BDL	0.092	BDL	0.092	BDL	0.092	BDL	0.092	BDL	0.183	BDL	0.183	BDL
B-4	B4-10	9/28/1993	10–11.5	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.16	BDL	0.16	BDL
B-5	B5-0	10/24/1993	0–0.5	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.16	**0.024 J**	0.16	BDL
B-6	B6-10.5	10/19/1993	10.5–12	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.16	BDL	0.16	BDL
B-6	B6-0	10/18/1993	0–0.5	0.093	BDL	0.093	BDL	0.093	BDL	0.093	BDL	0.093	BDL	0.186	**0.045 J**	0.186	BDL
B-7	B7-0	10/22/1993	0–0.5	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.171	**0.025 J**	0.171	BDL
B-8	B8-0	10/20/1993	0–0.5	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.169	**0.014 J**	0.169	BDL
B-9	B9-0	10/18/1993	0–0.5	0.089	BDL	0.089	BDL	0.089	BDL	0.089	BDL	0.089	BDL	0.178	**0.054 J**	0.178	BDL
BG-1	BG1-0	10/1/1993	0–0.5	0.097	BDL	0.097	BDL	0.097	BDL	0.097	BDL	0.097	BDL	0.193	BDL	0.193	BDL
BG-2	BG2-0	9/30/1993	0–0.5	0.119	BDL	0.119	BDL	0.119	BDL	0.119	BDL	0.119	BDL	0.238	BDL	0.238	BDL
DW-2	DW2-0	9/27/1993	0–0.5	0.093	BDL	0.093	BDL	0.093	BDL	0.093	BDL	0.093	BDL	0.186	BDL	0.186	BDL
DW-2	DW2-2	9/27/1993	2–3.5	0.092	BDL	0.092	BDL	0.092	BDL	0.092	BDL	0.092	BDL	0.184	BDL	0.184	BDL
DW-3	DW3-0	9/29/1993	0–0.5	0.09	BDL	0.09	BDL	0.09	BDL	0.09	BDL	0.09	BDL	0.18	BDL	0.18	BDL
DW-3	DW3-2	9/29/1993	2–3.5	0.097	BDL	0.097	BDL	0.097	BDL	0.097	BDL	0.097	BDL	0.194	BDL	0.194	BDL

Table 7-6 Summary of Soil PCB Results

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aroclor 1016 (mg/kg)		Aroclor 1221 (mg/kg)		Aroclor 1232 (mg/kg)		Aroclor 1242 (mg/kg)		Aroclor 1248 (mg/kg)		Aroclor 1254 (mg/kg)		Aroclor 1260 (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Rail Yard (Continued)																	
MW-40	MW40-5	9/27/1993	5–6.5	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.165	BDL	0.165	BDL
SS-13	SS13-0	9/30/1993	0–0.5	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.166	BDL	0.166	BDL
SS-14	SS14-0	9/30/1993	0–0.5	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.163	BDL	0.163	BDL
SS-15	SS15-0	9/30/1993	0–0.5	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.165	BDL	0.165	BDL
SS-16	SS16-0	9/30/1993	0–0.5	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.169	BDL	0.169	**0.137 J**
SS-19	SS19-0	9/30/1993	0–0.5	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.166	**0.083 J**	0.166	**0.092 J**
SS-19.1	SS19.1-0	9/30/1993	0–0.5	0.086	BDL	0.086	BDL	0.086	BDL	0.086	BDL	0.086	BDL	0.172	BDL	0.172	BDL
SS-20	SS20-0	10/1/1993	0–0.5	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.083	BDL	0.166	BDL	0.166	BDL
SS-21	SS21-0	9/30/1993	0–0.5	0.088	BDL	0.088	BDL	0.088	BDL	0.088	BDL	0.088	BDL	0.176	BDL	0.176	BDL
SS-22	SS22-0	9/30/1993	0–0.5	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.165	BDL	0.165	BDL
SS-23	SS23-0	9/30/1993	0–0.5	0.095	BDL	0.095	BDL	0.095	BDL	0.095	BDL	0.095	BDL	0.19	BDL	0.19	BDL
SS-24	SS24-0	9/30/1993	0–0.5	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.082	BDL	0.164	BDL	0.164	BDL
SS-25	SS25-0	10/1/1993	0–0.5	0.095	BDL	0.095	BDL	0.095	BDL	0.095	BDL	0.095	BDL	0.19	BDL	0.19	BDL
SS-26	SS26-0	10/1/1993	0–0.5	0.091	BDL	0.091	BDL	0.091	BDL	0.091	BDL	0.091	BDL	0.183	BDL	0.183	BDL
SS-27	SS27-0	9/30/1993	0–0.5	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.169	**1.2**	0.169	BDL
SS-28	SS28-0	9/28/1993	0–0.5	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.085	BDL	0.17	BDL	0.17	BDL
SS-29	SS29-0	9/30/1993	0–0.5	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.168	BDL	0.168	BDL
SS-30	SS30-0	9/30/1993	0–0.5	0.094	BDL	0.094	BDL	0.094	BDL	0.094	BDL	0.094	BDL	0.188	BDL	0.188	BDL
SS-31	SS31-0	9/30/1993	0–0.5	0.086	BDL	0.086	BDL	0.086	BDL	0.086	BDL	0.086	BDL	0.173	BDL	0.173	BDL
SS-32	SS32-0	9/30/1993	0–0.5	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.084	BDL	0.168	BDL	0.168	BDL
SS-7	SS-7	4/11/1991	7–7	—	—	—	—	—	—	—	—	—	—	—	**0.33**	—	—
SS-8	SS-8	4/11/1991	0–0	—	—	—	—	—	—	—	—	—	—	—	—	—	**0.081**
SS-9	SS-9	4/11/1991	0–0	—	—	—	—	—	—	—	—	—	—	—	—	—	**0.036**

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-7 Summary of Dioxins in Soil

Location ID	2A-B-1		
Sample Date	12/16/2001		
Sample ID	2A-B-1-0-6		
Depth Interval (ft)	0–0.5		
Chemical Name (µg/kg)	**DL**	**Result**	
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0003	**0.0279**	
1,2,3,4,6,7,8-HPCDF	0.0002	**0.0064**	
1,2,3,4,7,8,9-HPCDF	0.0003	**0.00046**	**J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0002	**0.00062**	**J**
1,2,3,4,7,8-HXCDF	0.0002	**0.0012**	**J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0002	**0.0018**	**J**
1,2,3,6,7,8-HXCDF	0.0002	**0.00067**	**J**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0002	**0.0015**	**J**
1,2,3,7,8,9-HxCDF	0.0002	BDL	
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.0002	**0.00048**	**J**
1,2,3,7,8-Pentachlorodibenzofuran	0.0002	**0.0052**	**J**
2,3,4,6,7,8-HXCDF	0.0002	**0.00093**	**J**
2,3,4,7,8-PECDF	0.0002	**0.00058**	**J**
2,3,7,8-TCDD	0.0002	**0.00033**	**J**
OCDD	0.0005	**0.158**	
OCDF	0.0004	**0.0095**	**J**
Total HPCDD	0.0003	**0.0517**	
Total HPCDF	0.0002	**0.0178**	
Total HXCDD	0.0002	**0.0132**	
Total HXCDF	0.0002	**0.0141**	**J**
Total PECDD	0.0002	**0.0016**	
Total PECDF	0.0002	**0.0118**	**J**
Total TCDD	0.0002	**0.00085**	
Total TCDF	0.0002	**0.0069**	**J**

Notes:
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-8 Summary of PAH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Acenaphthene (mg/kg)		Acenaphthylene (mg/kg)		Anthracene (mg/kg)		Benzo(a)anthracene (mg/kg)		Benzo(a)pyrene (mg/kg)		Benzo(b)fluoranthene (mg/kg)		Benzo(g,h,i)perylene (mg/kg)		Benzo(k)fluoranthene (mg/kg)		Chrysene (mg/kg)		Dibenz(a,h)anthracene (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Outside Rail Yard																							
1A-W-2	1A-W-2	12/4/2001	13–15	0.0078	**0.17**	0.0078	BDL	0.0078	**0.1** J	0.0078	**0.035**	0.07	BDL	0.047	BDL	0.0078	BDL	0.07	BDL	0.0078	**0.27**	0.0078	BDL
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	0.0087	**0.122**	0.0087	BDL	0.0087	BDL	0.0087	**0.061**	0.0087	**0.035** J	0.0087	BDL	0.0087	BDL	0.0087	**0.052**	0.0087	**0.305**	0.0087	BDL
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL
1A-W-4	1A-W-4	12/5/2001	11–11	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL
1B-W-1	1B-W-1	12/7/2001	15–15	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL
1B-W-2	1B-W-2-10	1/8/2002	10–10	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	**0.0094**	0.0078	BDL
1C-W-1	1C-W-1-13	12/17/2001	13–13	0.028	BDL	0.028	BDL	0.12	BDL	0.028	BDL	0.028	BDL	0.028	BDL	0.028	BDL	0.028	BDL	0.028	BDL	0.028	BDL
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	0.0091	BDL	0.0091	BDL	0.0091	BDL	0.0091	BDL	0.0091	**0.025** J	0.0091	**0.03**	0.0091	**0.024**	0.0091	**0.0075** J	0.0091	**0.022**	0.0091	BDL
2A-B-18	2A-B-18	12/4/2001	10–10	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	0.22	**0.63**	0.22	BDL	0.22	**0.56**	0.22	BDL	0.22	BDL	0.22	BDL	0.22	BDL	0.22	BDL	0.22	BDL	0.22	BDL
3-B-2	3-B-2-12	12/14/2001	12–12	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL
4-B-1	4-B-1-11	12/8/2001	11–11	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL
5-W-2	5-W-2-8	12/15/2001	8–8	0.25	BDL	0.25	BDL	0.25	**0.45** J	0.25	**0.28**	0.25	BDL	0.25	BDL	0.25	BDL	0.25	BDL	0.25	**1.6**	0.25	BDL
5-W-3	5-W-3EC-8.5	12/11/2001	8.5–8.5	0.019	**0.093** J	0.019	BDL	0.019	BDL	0.019	**0.173**	0.019	BDL	0.019	BDL	0.019	BDL	0.019	**0.218**	0.019	**1.15**	0.019	BDL
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	0.027	BDL	0.027	BDL	0.027	**0.076** J	0.027	**0.066**	0.027	BDL	0.11	BDL	0.027	BDL	0.11	BDL	0.027	**0.34**	0.027	BDL
B-12	B12-7.5	10/29/1993	7.5–9	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL
HA-1	HA1-2	10/7/1993	1–2	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL
HA-2	HA2-1	10/7/1993	1–1.5	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL
HA-3	HA3-1	10/7/1993	0–1	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL
HA-4	HA4-0	10/7/1993	0–1	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL
MW-33	MW33-2.5	9/28/1993	2.5–4	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL
MW-34	MW34-10	9/28/1993	10–11.5	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL
MW-39	MW39-6	10/19/1993	6–7.5	0.33	BDL	0.33	BDL	0.33	BDL	0.33	**0.11** J	0.33	**0.13** J	0.33	**0.26** J	0.33	**0.17** J	0.33	**0.08** J	0.33	BDL	0.33	BDL
PZ-1	PZ-1-0901-D	9/20/2001	11.5–11.5	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL
PZ-4	PZ-4-0901-D	9/22/2001	11–11	0.72	BDL	0.72	BDL	0.72	BDL	0.72	**0.5** J	0.72	BDL	0.72	BDL	0.72	BDL	0.72	BDL	0.72	**1.6**	0.72	BDL
PZ-5	PZ-5-0901-D	9/20/2001	10–10	0.37	BDL	0.37	BDL	0.37	BDL	0.37	**0.22** J	0.37	BDL	0.37	BDL	0.37	BDL	0.37	BDL	0.37	**0.68**	0.37	BDL
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	0.495	**3.3**	0.495	**0.706**	0.495	**3.25**	0.495	**3.67**	0.495	**1.55**	0.495	**1.18**	0.495	**0.895**	0.495	BDL	0.495	**8.71**	0.495	BDL
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	**0.0153**	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL
Rail Yard																							
2A-B-11	2A-B-11-9	12/14/2001	9–9	0.54	**3.7**	0.91	BDL	0.54	**1.5** J	0.54	**0.64**	0.54	BDL	0.54	BDL	0.54	BDL	0.54	BDL	0.54	**1.2**	0.54	BDL
2A-B-13	2A-B-13-17	12/10/2001	17–17	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL
2A-B-14	2A-B-14-11	12/10/2001	11–11	0.0075	**0.088**	0.0075	BDL	0.0075	**0.14**	0.0075	**0.18**	0.0075	**0.15**	0.0075	**0.12**	0.0075	**0.033**	0.0075	**0.13**	0.0075	**0.21**	0.0075	BDL
2A-B-15	2A-B-15-11	12/11/2001	11–11	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL
2A-B-16	2A-B-16-14	12/11/2001	14–14	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	0.078	BDL	0.078	BDL	0.078	**0.3** J	0.078	**0.093**	0.078	BDL	0.078	BDL	0.078	BDL	0.078	BDL	0.078	**0.47**	0.078	BDL
2A-B-6	2A-B-6	12/5/2001	5–15	1.4	**1.5**	1.4	BDL	1.4	**1.8**	1.4	BDL	1.4	BDL	1.4	BDL	1.4	BDL	1.4	BDL	1.4	**3.2**	1.4	BDL
2A-B-7	2A-B-7	12/6/2001	10–12.5	0.26	**2.6**	0.26	BDL	0.26	**2.8**	0.26	**1.8**	0.26	BDL	1	BDL	0.26	BDL	1.3	BDL	0.26	**5.3**	0.26	BDL
2A-W-10	2A-W-10-16	12/12/2001	16–16	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL
2A-W-3	2A-W-3-17	12/12/2001	17–17	0.056	**0.22** J	0.056	BDL	0.056	**0.22** J	0.056	**0.12** J	0.18	BDL	0.072	BDL	0.056	BDL	0.061	BDL	0.056	**0.43**	0.056	BDL
2A-W-4	2A-W-4-13	12/16/2001	13–13	0.054	**0.27**	0.054	BDL	0.054	**0.16** J	0.054	**0.076**	0.054	BDL	0.11	BDL	0.054	BDL	0.11	BDL	0.054	**0.31**	0.054	BDL
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL
2A-W-7	2A-W-7-12	12/12/2001	12–12	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL
B-4	B4-10	9/28/1993	10–11.5	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL
B-5	B5-7	10/24/1993	7–8.5	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL
B-6	B6-10.5	10/19/1993	10.5–12	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL
B-6	B6-8	10/18/1993	8–9.5	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	**0.18** J	0.33	BDL
B-9	B9-7.5	10/18/1993	7.5–9	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL
DW-2	DW2-5	9/27/1993	5–6.5	0.367	BDL	0.367	BDL	0.367	BDL	0.367	BDL	0.367	BDL	0.367	BDL	0.367	BDL	0.367	BDL	0.367	**0.189** J	0.367	BDL
MW-40	MW40-5	9/27/1993	5–6.5	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL	0.08	BDL
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	0.02	**0.0451**	0.02	BDL	0.02	BDL	0.02	BDL
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	0.16	**0.877**	0.16	**0.165**	0.16	**0.902**	0.16	**1.45**	0.16	**0.851**	0.16	**0.661**	0.16	**0.534**	0.16	BDL	0.16	**3.39**	0.16	BDL
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	0.16	**0.87**	0.16	**0.246**	0.16	**1.97**	0.16	**1.02**	0.16	**1.1**	0.16	**1.23**	0.16	**0.985**	0.16	**0.197**	0.16	**3.51**	0.16	**0.213**
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	0.16	BDL	0.16	BDL	0.16	BDL	0.16	**0.377**	0.16	BDL	0.16	BDL	0.16	**0.221**	0.16	BDL	0.16	BDL	0.16	BDL
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	0.02	BDL	0.02	BDL	0.02	BDL	0.02	**0.0365**	0.02	**0.0274**	0.02	**0.0319**	0.02	**0.0699**	0.02	**0.0289**	0.02	**0.0243**	0.02	BDL
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	0.02	BDL	0.02	BDL	0.02	**0.0357**	0.02	**0.0459**	0.02	**0.0221**	0.02	**0.0323**	0.02	**0.0662**	0.02	BDL	0.02	**0.0204**	0.02	BDL
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	0.16	**0.816**	0.16	**0.237**	0.16	**2.17**	0.16	**0.539**	0.16	**0.329**	0.16	**0.395**	0.16	**0.224**	0.16	BDL	0.16	**1.64**	0.16	BDL
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	0.08	**0.166**	0.08	BDL	0.08	**0.942**	0.08	**0.397**	0.08	**0.249**	0.08	**0.207**	0.08	**0.178**	0.08	BDL	0.08	**0.829**	0.08	BDL

Notes:

BDL - Below detection limit.

DL - Detection limit.

J - Estimated concentration.

* Total cPAH concentration normalized by the following method

i) Multiply each detected concentration by PEF (California EPA, 1994), then sum resulting concentrations

ii) Multiply detection limit of all cPAHs not detected by .05 x PEF (California EPA, 1994), then sum resulting concentrations

iii) Add sum of detected concentrations and non-detected concentrations

xx - Sample could exceed cleanup level based on normalized detection limits.

Table 7-8 Summary of PAH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Fluoranthene (mg/kg)		Fluorene (mg/kg)		Indeno(1,2,3-cd)pyrene (mg/kg)		Naphthalene (mg/kg)		Phenanthrene (mg/kg)		Pyrene (mg/kg)		Total cPAH
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	
1A-W-2	1A-W-2	12/4/2001	13–15	0.0078	**0.1**	0.023	**0.97**	0.0078	BDL	0.031	BDL	0.0078	**0.1**	0.0078	**0.18**	0.05134
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	0.0087	**0.063**	0.0087	**1.09**	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	**0.208**	0.05457
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	0.011	BDL	BDL
1A-W-4	1A-W-4	12/5/2001	11–11	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	BDL
1B-W-1	1B-W-1	12/7/2001	15–15	0.1	BDL	0.1	**0.18**	0.1	BDL	0.1	BDL	0.1	BDL	0.1	BDL	BDL
1B-W-2	1B-W-2-10	1/8/2002	10–10	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.0078	BDL	0.009454
1C-W-1	1C-W-1-13	12/17/2001	13–13	0.028	**0.039**	0.028	**0.045**	0.028	BDL	0.028	BDL	0.028	**0.045** J	0.028	**0.13**	BDL
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	0.0091	BDL	0.0091	BDL	0.0091	**0.022**	0.0091	BDL	0.0091	BDL	0.0091	**0.17**	0.036175
2A-B-18	2A-B-18	12/4/2001	10–10	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	BDL
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	0.22	**0.22**	0.22	**0.78**	0.22	BDL	0.22	BDL	0.22	**1.3**	0.22	**0.35**	BDLxx
3-B-2	3-B-2-12	12/14/2001	12–12	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	0.0086	BDL	BDL
4-B-1	4-B-1-11	12/8/2001	11–11	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	0.008	BDL	BDL
5-W-2	5-W-2-8	12/15/2001	8–8	0.25	**0.45** J	0.25	**0.82**	0.25	BDL	0.25	BDL	0.25	BDL	0.25	**0.72**	0.3315xx
5-W-3	5-W-3EC-8.5	12/11/2001	8.5–8.5	0.019	BDL	0.019	**0.793**	0.019	BDL	0.019	**0.028**	0.019	BDL	0.567	**0.567** J	0.0715
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	0.027	**0.13**	0.027	**0.046**	0.027	BDL	0.027	BDL	0.027	**0.033** J	0.027	**0.16**	0.04935
B-12	B12-7.5	10/29/1993	7.5–9	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	0.345	BDL	BDLxx
HA-1	HA1-2	10/7/1993	1–2	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	0.346	BDL	BDLxx
HA-2	HA2-1	10/7/1993	1–1.5	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	0.386	BDL	BDLxx
HA-3	HA3-1	10/7/1993	0–1	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	1.575	BDL	BDLxx
HA-4	HA4-0	10/7/1993	0–1	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	2.791	BDL	BDLxx
MW-33	MW33-2.5	9/28/1993	2.5–4	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	0.402	BDL	BDLxx
MW-34	MW34-10	9/28/1993	10–11.5	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	BDLxx
MW-39	MW39-6	10/19/1993	6–7.5	0.33	**0.2** J	0.33	BDL	0.33	**0.13** J	0.33	BDL	0.33	**0.18** J	0.33	**0.3** J	0.35465
PZ-1	PZ-1-0901-D	9/20/2001	11.5–11.5	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	0.71	BDL	BDLxx
PZ-4	PZ-4-0901-D	9/22/2001	11–11	0.72	BDL	0.72	**1.0**	0.72	BDL	0.72	BDL	0.72	BDL	0.72	**0.78**	0.894xx
PZ-5	PZ-5-0901-D	9/20/2001	10–10	0.37	BDL	0.37	**0.27** J	0.37	BDL	0.37	BDL	0.37	BDL	0.37	**0.42**	0.4543xx
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	0.495	**2.92**	0.495	**7.77**	0.495	BDL	0.495	**4.29**	0.495	**19.1**	0.495	**10.3**	2.4191
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	0.01	**0.0129**	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	**0.0137**	0.01308
2A-B-11	2A-B-11-9	12/14/2001	9–9	0.54	**1.1**	0.54	**8.1** J	0.54	BDL	1.1	BDL	0.54	**13**	0.54	**2.1**	0.697xx
2A-B-13	2A-B-13-17	12/10/2001	17–17	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	0.0073	BDL	BDL
2A-B-14	2A-B-14-11	12/10/2001	11–11	0.0075	**0.38**	0.0075	**0.067**	0.0075	**0.034**	0.0075	**0.022**	0.015	**0.75**	0.0075	**0.53**	0.20225
2A-B-15	2A-B-15-11	12/11/2001	11–11	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	0.0087	BDL	BDL
2A-B-16	2A-B-16-14	12/11/2001	14–14	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	BDL
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	0.078	**0.24**	0.078	**0.71**	0.078	BDL	0.078	BDL	0.078	**0.47**	0.078	**0.24**	0.1037
2A-B-6	2A-B-6	12/5/2001	5–15	1.4	BDL	1.4	**3.8**	1.4	BDL	1.4	BDL	1.4	**8.9**	1.4	**3.5**	1.712xx
2A-B-7	2A-B-7	12/6/2001	10–12.5	0.26	**2.2**	0.26	**7**	0.26	BDL	0.26	**3.3**	0.26	**16**	0.26	**6.8**	0.621
2A-W-10	2A-W-10-16	12/12/2001	16–16	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	0.0089	BDL	BDL
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	0.01	BDL	BDL
2A-W-3	2A-W-3-17	12/12/2001	17–17	0.056	**0.19** J	0.056	**1.1** J	0.056	BDL	0.089	BDL	0.056	**0.26** J	0.056	**0.34**	0.14375xx
2A-W-4	2A-W-4-13	12/16/2001	13–13	0.054	**0.12**	0.054	**0.78**	0.054	BDL	0.054	BDL	0.054	**0.18** J	0.054	**0.2**	0.0784
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	0.0071	BDL	BDL
2A-W-7	2A-W-7-12	12/12/2001	12–12	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	0.0072	BDL	BDL
B-4	B4-10	9/28/1993	10–11.5	6.6	BDL	6.6	BDL	6.6	BDL	6.6	BDL	6.6	**7.5**	6.6	BDL	BDLxx
B-5	B5-7	10/24/1993	7–8.5	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	0.337	BDL	BDLxx
B-6	B6-10.5	10/19/1993	10.5–12	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	0.33	BDL	BDLxx
B-6	B6-8	10/18/1993	8–9.5	0.33	BDL	0.33	**0.11** J	0.33	BDL	0.33	BDL	0.33	BDL	0.33	**0.19** J	0.3978xx
B-9	B9-7.5	10/18/1993	7.5–9	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	0.473	BDL	BDLxx
DW-2	DW2-5	9/27/1993	5–6.5	0.367	**0.144** J	0.367	BDL	0.367	BDL	0.367	BDL	0.367	**0.144** J	0.367	BDL	0.44229xx
MW-40	MW40-5	9/27/1993	5–6.5	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	0.347	BDL	BDLxx
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	0.04	BDL	BDL
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	0.08	BDL	0.08	BDL	0.08	BDL	0.08	**0.226**	0.08	BDL	0.08	BDL	BDL
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	0.02	BDL	BDL
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	0.16	**1.18**	0.16	**1.8**	0.16	**0.267**	0.16	**0.61**	0.16	**3.63**	0.16	**4.27**	1.2107
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	0.16	**1.03**	0.16	**1.59**	0.16	**0.591**	0.16	**2.99**	0.16	**4.12**	0.16	**5.35**	1.6519
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	0.16	BDL	0.16	BDL	0.16	BDL	0.16	BDL	0.16	**0.299**	0.16	**0.481**	0.2225xx
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	0.02	**0.041**	0.02	BDL	0.02	**0.0334**	0.02	BDL	0.02	**0.0258**	0.02	**0.0593**	0.050713
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	0.02	**0.0204**	0.02	BDL	0.02	**0.0391**	0.02	BDL	0.02	**0.0679**	0.02	**0.0527**	0.045034
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	0.16	**0.737**	0.16	**2.43**	0.16	BDL	0.16	**0.329**	0.16	**6.92**	0.16	**1.89**	0.5348
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	0.08	**0.521**	0.08	**0.8**	0.08	**0.0889**	0.08	BDL	0.08	**0.788**	0.08	**1.3**	0.37058

Notes:

BDL - Below detection limit.

DL - Detection limit.

J - Estimated concentration.

* Total cPAH concentration normalized by the following method

i) Multiply each detected concentration by PEF (California EPA, 1994), then sum resulting concentrations

ii) Multiply detection limit of all cPAHs not detected by .05 x PEF (California EPA, 1994), then sum resulting concentrations

iii) Add sum of detected concentrations and non-detected concentrations

xx - Sample could exceed cleanup level based on normalized detection limits.

Table 7-9 Summary of BTEX in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	Benzene (mg/kg)		Ethylbenzene (mg/kg)		m,p-Xylenes (mg/kg)		o-Xylene (mg/kg)		Toluene (mg/kg)		Total Xylenes (mg/kg)	
					DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Outside Rail Yard																
1A-W-2	1A-W-2	12/4/2001	13–15	VPH	0.01	**0.01**	0.5	BDL	0.5	**0.68**	0.5	BDL	0.5	BDL	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	BTEX-SW 8260	0.286	BDL	0.286	BDL	0.572	BDL	0.286	BDL	0.286	BDL	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	VPH	0.012	**0.016**	0.5	BDL	0.5	**0.59**	0.5	BDL	0.5	BDL	—	—
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	BTEX-SW 8260	0.0014	BDL	0.0014	BDL	0.0027	BDL	0.0014	BDL	0.0014	BDL	—	—
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	VPH	0.013	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
1A-W-4	1A-W-4	12/5/2001	11–11	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
1B-W-1	1B-W-1	12/7/2001	15–15	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
1B-W-2	1B-W-2-10	1/8/2002	10–10	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
1C-W-1	1C-W-1-13	12/17/2001	13–13	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	BTEX-SW 8260	0.288	BDL	0.288	BDL	0.575	BDL	0.288	BDL	0.288	BDL	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	VPH	0.014	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-18	2A-B-18	12/4/2001	10–10	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
3-B-2	3-B-2-12	12/14/2001	12–12	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
5-W-2	5-W-2-8	12/15/2001	8–8	VPH	0.01	BDL	0.5	BDL	0.5	**0.99**	0.5	**1.1**	0.5	BDL	—	—
5-W-3	5-W-3EC-8.5	12/11/2001	8.5–8.5	BTEX-SW 8260	0.295	BDL	0.295	BDL	0.59	BDL	0.295	BDL	0.295	BDL	—	—
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
B-12	B12-7.5	10/29/1993	7.5–9	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
HA-1	HA1-2	10/7/1993	1–2	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
HA-2	HA2-1	10/7/1993	1–1.5	EPA 8240	0.006	BDL	0.006	BDL	—	—	—	—	0.006	BDL	0.006	BDL
HA-3	HA3-1	10/7/1993	0–1	EPA 8240	0.006	BDL	0.006	BDL	—	—	—	—	0.006	BDL	0.006	BDL
HA-4	HA4-0	10/7/1993	0–1	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-19	MW19-4	9/26/1990	4–4	VOCs	0.042	BDL	0.042	BDL	—	—	—	—	0.042	BDL	0.042	BDL
MW-20	MW20-4	9/26/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-22	MW22-4.5	9/24/1990	4.5–4.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-24	MW24-4.5	9/25/1990	4.5–4.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-25	MW25-4	9/25/1990	4–4	VOCs	—	**0.051**	0.025	BDL	—	—	—	—	0.025	BDL	—	**0.035**
MW-33	MW33-5	9/28/1993	5–6.5	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-34	MW34-7.5	9/28/1993	7.5–9	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-35	MW35-7.5	9/28/1993	7.5–9	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-36	MW36-6	10/21/1993	6–7.5	EPA 8240	0.026	BDL	0.026	BDL	—	—	—	—	0.026	BDL	0.026	BDL
MW-37	MW37-7.5	10/22/1993	7.5–9	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-38	MW38-7.5	10/24/1993	7.5–9	EPA 8240	0.006	BDL	0.006	BDL	—	—	—	—	0.006	BDL	0.006	BDL
MW-39	MW39-6	10/19/1993	6–7.5	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
PZ-1	PZ-1-0901-C	9/20/2001	11.5–11.5	VPH	0.011	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
PZ-4	PZ-4-0901-C	9/22/2001	11–11	VPH	0.011	BDL	0.5	BDL	0.5	**1.9**	0.5	**1.8**	0.5	BDL	—	—
PZ-5	PZ-5-0901-C	9/20/2001	10–10	VPH	0.011	BDL	0.5	BDL	0.5	BDL	0.5	**0.63**	0.5	BDL	—	—
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—

Table 7-9 Summary of BTEX in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	Benzene (mg/kg)		Ethylbenzene (mg/kg)		m,p-Xylenes (mg/kg)		o-Xylene (mg/kg)		Toluene (mg/kg)		Total Xylenes (mg/kg)	
					DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Rail Yard																
2A-B-11	2A-B-11-9	12/14/2001	9–9	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-13	2A-B-13-17	12/10/2001	17–17	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-14	2A-B-14-11	12/10/2001	11–11	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-15	2A-B-15-11	12/11/2001	11–11	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-16	2A-B-16-14	12/11/2001	14–14	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-B-6	2A-B-6	12/5/2001	5–15	VPH	0.01	**0.02**	0.5	**0.52**	0.5	**0.96**	0.5	**1**	0.5	BDL	—	—
2A-B-7	2A-B-7	12/6/2001	10–12.5	VPH	0.01	**0.01**	0.5	BDL	0.5	**0.63**	0.5	BDL	0.5	BDL	—	—
2A-W-10	2A-W-10-16	12/12/2001	16–16	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	BTEX-SW 8260	0.0015	BDL	0.0015	BDL	0.003	BDL	0.0015	BDL	0.0015	BDL	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	VPH	0.013	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-W-3	2A-W-3-17	12/12/2001	17–17	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-W-4	2A-W-4-13	12/16/2001	13–13	VPH	0.01	**0.01**	0.5	BDL	0.5	**0.59**	0.5	BDL	0.5	BDL	—	—
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
2A-W-7	2A-W-7-12	12/12/2001	12–12	VPH	0.01	BDL	0.5	BDL	0.5	BDL	0.5	BDL	0.5	BDL	—	—
B-4	B4-10	9/28/1993	10–11.5	EPA 8240	0.027	BDL	0.027	BDL	—	—	—	—	0.027	BDL	0.027	BDL
B-5	B5-7	10/24/1993	7–8.5	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
B-6	B6-8	10/18/1993	8–9.5	EPA 8240	0.01	BDL	0.01	BDL	—	—	—	—	0.01	BDL	0.01	BDL
B-9	B9-7.5	10/18/1993	7.5–9	EPA 8240	0.007	BDL	0.007	BDL	—	—	—	—	0.007	BDL	0.007	BDL
DW-2	DW2-10	9/27/1993	10–11.5	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-1	MW1-3.5	9/17/1990	3.5–3.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-10	MW10-9	9/20/1990	9–9	VOCs	0.5	BDL	—	**0.65**	—	—	—	—	0.5	BDL	0.5	BDL
MW-11	MW11-9	9/20/1990	9–9	VOCs	0.5	BDL	0.5	BDL	—	—	—	—	0.5	BDL	0.5	BDL
MW-14	MW14-4	9/21/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-15	MW15-9.5	9/21/1990	9.5–9.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-16	MW16-4	9/21/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-18	MW18-4	9/24/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-2	MW2-9.5	9/18/1990	9.5–9.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-3	MW3-9.5	9/18/1990	9.5–9.5	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-4	MW4-9.5	9/18/1990	9.5–9.5	VOCs	0.036	BDL	0.036	BDL	—	—	—	—	0.036	BDL	0.036	BDL
MW-40	MW40-5	9/27/1993	5–6.5	EPA 8240	0.005	BDL	0.005	BDL	—	—	—	—	0.005	BDL	0.005	BDL
MW-5	MW5-4	9/19/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	—	**0.36**
MW-6	MW6-14	9/19/1990	14–14	VOCs	0.5	BDL	—	**7.8**	—	—	—	—	—	**2**	—	**9.6**
MW-7	MW7-9	9/19/1990	9–9	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
MW-8	MW8-2	9/19/1990	2–2	VOCs	—	**0.093**	—	**0.098**	—	—	—	—	—	**0.54**	—	**0.93**
MW-9	MW9-4	9/20/1990	4–4	VOCs	0.025	BDL	0.025	BDL	—	—	—	—	0.025	BDL	0.025	BDL
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	EPA 8260B	0.1	BDL	0.1	BDL	0.2	BDL	0.1	BDL	0.1	BDL	—	—

Notes:
BDL - Below detection limit.
DL - Detection limit.
"—" - No data available.

Table 7-10 Summary of EPH/VPH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aliphatics																					
				C5–C6 (mg/kg)		C6–C8 (mg/kg)		C8–C10 (mg/kg)		C10–C12 (mg/kg)		C12–C16 (mg/kg)		C16–C18 (mg/kg)		C16–C21 (mg/kg)		C18–C21 (mg/kg)		C21–C28 (mg/kg)		C21–C34 (mg/kg)		C28–C36 (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Outside Rail Yard																									
Vadose Zone																									
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	—	—	—	—	5	BDL	5	BDL	5	BDL	—	—	5	BDL	—	—	—	—	5	**39.7**	—	—
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smear Zone																									
1A-W-2	1A-W-2	12/4/2001	13–15	—	—	—	—	3.9	**47**	3.9	**120**	3.9	**410**	—	—	3.9	**400**	—	—	—	—	3.9	**950**	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	—	—	—	—	—	—	5.9	**98**	5.9	**420**	5.9	**190**	—	—	5.9	**210**	5.9	**330**	—	—	5.9	**250**
1A-W-4	1A-W-4	12/5/2001	11–11	—	—	—	—	4.4	BDL	4.4	BDL	4.4	BDL	—	—	4.4	BDL	—	—	—	—	4.4	BDL	—	—
1B-W-1	1B-W-1	12/7/2001	15–15	—	—	—	—	3.8	**9.1**	3.8	**53**	3.8	**270**	—	—	3.8	**190**	—	—	—	—	3.8	**60**	—	—
1B-W-2	1B-W-2-10	1/8/2002	10–10	—	—	—	—	3.8	BDL	3.8	BDL	3.8	BDL	—	—	3.8	BDL	—	—	—	—	3.8	BDL	—	—
1C-W-1	1C-W-1-13	12/17/2001	13–13	—	—	—	—	5.6	BDL	5.6	**17**	5.6	**400**	—	—	5.6	**400**	—	—	—	—	5.6	**130**	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	—	—	—	—	—	—	6.9	**9.4**	6.9	**240**	6.9	**210**	—	—	6.9	**210**	6.9	**83**	—	—	6.9	**92**
2A-B-18	2A-B-18	12/4/2001	10–10	—	—	—	—	4	BDL	4	BDL	4	BDL	—	—	4	BDL	—	—	—	—	4	**4**	—	—
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	—	—	—	—	5.3	**46**	5.3	**160**	5.3	**780**	—	—	5.3	**740**	—	—	—	—	5.3	**170**	—	—
3-B-2	3-B-2-12	12/14/2001	12–12	—	—	—	—	4.3	BDL	4.3	BDL	4.3	BDL	—	—	4.3	BDL	—	—	—	—	4.3	BDL	—	—
5-W-2	5-W-2-8	12/15/2001	8–8	—	—	—	—	12	**200**	12	**790**	12	**2,500**	—	—	12	**2,700**	—	—	—	—	12	**5,700**	—	—
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	—	—	—	—	5.5	**30**	5.5	**150**	5.5	**630**	—	—	5.5	**590**	—	—	—	—	5.5	**870**	—	—
1A-W-2	1A-W-2	12/4/2001	13–15	5	BDL	5	**6.4**	5	**19**	5	**94**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	5	BDL	5	**5.5**	5	**16**	5	**84**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1A-W-4	1A-W-4	12/5/2001	11–11	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1B-W-1	1B-W-1	12/7/2001	15–15	5	BDL	5	BDL	5	BDL	5	**44**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1B-W-2	1B-W-2-10	1/8/2002	10–10	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1-13	12/17/2001	13–13	5	BDL	5	BDL	5	BDL	5	**23**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	5	BDL	5	BDL	5	BDL	5	**11**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-18	2A-B-18	12/4/2001	10–10	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	5	BDL	5	BDL	5	**8**	5	**110**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3-B-2	3-B-2-12	12/14/2001	12–12	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5-W-2	5-W-2-8	12/15/2001	8–8	5	BDL	5	BDL	5	**15**	5	**140**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	5	BDL	5	BDL	5	BDL	5	**83**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-1	PZ-1-0901-C	9/20/2001	11.5–11.5	5	BDL	5	BDL	5	**8.2**	5	**89**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-1	PZ-1-0901-D	9/20/2001	11.5–11.5	—	—	—	—	—	—	5.3	**150**	5.3	**630**	5.3	**340**	—	—	5.3	**430**	5.3	**760**	—	—	5.3	**660**
PZ-4	PZ-4-0901-C	9/22/2001	11–11	5	BDL	5	**8.7**	5	**39**	5	**230**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-4	PZ-4-0901-D	9/22/2001	11–11	—	—	—	—	—	—	5.4	**440**	5.4	**1,800**	5.4	**910**	—	—	5.4	**1,100**	5.4	**2,000**	—	—	5.4	**1,800**
PZ-5	PZ-5-0901-C	9/20/2001	10–10	5	BDL	5	BDL	5	**9.7**	5	**110**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-5	PZ-5-0901-D	9/20/2001	10–10	—	—	—	—	—	—	5.6	**24**	5.6	**110**	5.6	**58**	—	—	5.6	**60**	5.6	**110**	—	—	5.6	**91**
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	—	—	—	—	167	BDL	167	**184**	167	**1,920**	—	—	167	**5,580**	—	—	—	—	167	**12,300**	—	—
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saturated Zone																									
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	—	—	—	—	—	—	6.7	BDL	6.7	BDL	6.7	BDL	—	—	6.7	BDL	6.7	BDL	—	—	6.7	BDL
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 7-10 Summary of EPH/VPH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aliphatics																					
				C5–C6 (mg/kg)		C6–C8 (mg/kg)		C8–C10 (mg/kg)		C10–C12 (mg/kg)		C12–C16 (mg/kg)		C16–C18 (mg/kg)		C16–C21 (mg/kg)		C18–C21 (mg/kg)		C21–C28 (mg/kg)		C21–C34 (mg/kg)		C28–C36 (mg/kg)	
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Rail Yard																									
Vadose Zone																									
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	—	—	—	—	40	BDL	40	BDL	40	**139**	—	—	40	**435**	—	—	—	—	40	**1,260**	—	—
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	—	—	—	—	80	BDL	80	**308**	80	**2,570**	—	—	80	**3,870**	—	—	—	—	80	**4,800**	—	—
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	—	—	—	—	10	BDL	10	BDL	10	BDL	—	—	10	**65.8**	—	—	—	—	10	**366**	—	—
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	—	—	—	—	10	BDL	10	BDL	10	**28.7**	—	—	10	**128**	—	—	—	—	10	**457**	—	—
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	—	—	—	—	40	BDL	40	**236**	40	**1,740**	—	—	40	**3,000**	—	—	—	—	40	**4,620**	—	—
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	20	BDL	20	BDL	20	BDL	20	**35.2**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	50	BDL	50	BDL	50	BDL	50	**53.1 J**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smear Zone																									
2A-B-11	2A-B-11-9	12/14/2001	9–9	—	—	—	—	11	**110**	11	**460**	11	**2,000**	—	—	11	**1,800**	—	—	—	—	11	**1,700 J**	—	—
2A-B-14	2A-B-14-11	12/10/2001	11–11	—	—	—	—	3.7	BDL	3.7	BDL	3.7	BDL	—	—	3.7	**7.4**	—	—	—	—	3.7	**33**	—	—
2A-B-15	2A-B-15-11	12/11/2001	11–11	—	—	—	—	4.3	BDL	4.3	BDL	4.3	BDL	—	—	4.3	BDL	—	—	—	—	4.3	BDL	—	—
2A-B-16	2A-B-16-14	12/11/2001	14–14	—	—	—	—	5.1	BDL	5.1	BDL	5.1	BDL	—	—	5.1	**7.1**	—	—	—	—	5.1	**14**	—	—
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	—	—	—	—	38	**65**	38	**220**	38	**1,800**	—	—	38	**2,600**	—	—	—	—	38	**1,900**	—	—
2A-B-6	2A-B-6	12/5/2001	5–15	—	—	—	—	6.9	**250**	6.9	**1,200**	140	**7,400**	—	—	140	**9,500**	—	—	—	—	140	**17,000**	—	—
2A-B-7	2A-B-7	12/6/2001	10–12.5	—	—	—	—	32	**180**	32	**510**	32	**2,300**	—	—	32	**2,800**	—	—	—	—	32	**5,400**	—	—
2A-W-3	2A-W-3-17	12/12/2001	17–17	—	—	—	—	3.8	**62**	3.8	**250**	3.8	**900**	—	—	3.8	**1,100**	—	—	—	—	3.8	**2,300**	—	—
2A-W-4	2A-W-4-13	12/16/2001	13–13	—	—	—	—	5.4	**47**	5.4	**170**	5.4	**580**	—	—	5.4	**560**	—	—	—	—	5.4	**1,200**	—	—
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	—	—	—	—	3.5	BDL	3.5	BDL	3.5	BDL	—	—	3.5	BDL	—	—	—	—	3.5	BDL	—	—
2A-W-7	2A-W-7-12	12/12/2001	12–12	—	—	—	—	3.5	BDL	3.5	BDL	3.5	BDL	—	—	3.5	BDL	—	—	—	—	3.5	BDL	—	—
2A-B-11	2A-B-11-9	12/14/2001	9–9	5	BDL	5	BDL	5	BDL	5	**320**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-14	2A-B-14-11	12/10/2001	11–11	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-15	2A-B-15-11	12/11/2001	11–11	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-16	2A-B-16-14	12/11/2001	14–14	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	5	BDL	5	BDL	5	**12**	5	**79**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-6	2A-B-6	12/5/2001	5–15	5	BDL	5	**9.9**	5	BDL	5	**140**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-7	2A-B-7	12/6/2001	10–12.5	5	BDL	5	**7.5**	5	**15**	5	**100**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-3	2A-W-3-17	12/12/2001	17–17	5	BDL	5	BDL	5	**12**	5	**94**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-4	2A-W-4-13	12/16/2001	13–13	5	BDL	5	BDL	5	**18**	5	**95 J**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-7	2A-W-7-12	12/12/2001	12–12	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	—	—	—	—	20	BDL	20	BDL	20	BDL	—	—	20	**240 J**	—	—	—	—	20	**674 J**	—	—
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	—	—	—	—	10	BDL	10	BDL	10	**21.6**	—	—	10	**130**	—	—	—	—	10	**378**	—	—
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	—	—	—	—	80	BDL	80	**277**	80	**2,000**	—	—	80	**2,910**	—	—	—	—	80	**5,230**	—	—
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	—	—	—	—	80	BDL	80	BDL	80	**507**	—	—	80	**1,340**	—	—	—	—	80	**3,930**	—	—
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	—	—	—	—	80	BDL	80	**431**	80	**2,550**	—	—	80	**3,670**	—	—	—	—	80	**5,980**	—	—
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	10	BDL	10	BDL	10	BDL	10	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	50	BDL	50	BDL	50	BDL	50	**58.4**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	5	BDL	5	BDL	5	**7.73**	5	**35.1**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saturated Zone																									
2A-B-13	2A-B-13-17	12/10/2001	17–17	—	—	—	—	3.6	BDL	3.6	BDL	3.6	BDL	—	—	3.6	BDL	—	—	—	—	3.6	BDL	—	—
2A-W-10	2A-W-10-16	12/12/2001	16–16	—	—	—	—	4.5	BDL	4.5	BDL	4.5	BDL	—	—	4.5	BDL	—	—	—	—	4.5	BDL	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	—	—	—	—	—	—	6.6	BDL	6.6	BDL	6.6	BDL	—	—	6.6	BDL	6.6	BDL	—	—	6.6	BDL
2A-B-13	2A-B-13-17	12/10/2001	17–17	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10-16	12/12/2001	16–16	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	5	BDL	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-10 Summary of EPH/VPH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aromatics																				Extractable Petroleum Hydrocarbons (mg/kg)		Total Aliphatic (mg/kg)		Total Aromatic (mg/kg)	
				C8–C10 (mg/kg)		C10–C12 (mg/kg)		C12–C13 (mg/kg)		C12–C16 (mg/kg)		C16–C18 (mg/kg)		C16–C21 (mg/kg)		C18–C21 (mg/kg)		C21–C28 (mg/kg)		C21–C34 (mg/kg)		C28–C34 (mg/kg)							
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Outside Rail Yard																													
Vadose Zone																													
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	—	—	5	BDL	—	—	5	BDL	—	—	5	BDL	—	—	—	—	5	**17.9**	—	—	—	**57.6**	—	—	—	—
TPHTP-8	TPHTP-8-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smear Zone																													
1A-W-2	1A-W-2	12/4/2001	13–15	3.9	BDL	3.9	**9.4**	—	—	3.9	**96**	—	—	3.9	**390**	—	—	—	—	3.9	**660**	—	—	—	—	—	—	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	—	—	5.9	BDL	—	—	5.9	**69**	5.9	**160**	—	—	5.9	**220**	5.9	**370**	—	—	5.9	**210**	—	—	—	**1,500**	—	**1,000**
1A-W-4	1A-W-4	12/5/2001	11–11	4.4	BDL	4.4	BDL	—	—	4.4	BDL	—	—	4.4	BDL	—	—	—	—	4.4	BDL	—	—	—	—	—	—	—	—
1B-W-1	1B-W-1	12/7/2001	15–15	3.8	BDL	3.8	BDL	—	—	3.8	**33 J**	—	—	3.8	**140 J**	—	—	—	—	3.8	**83 J**	—	—	—	—	—	—	—	—
1B-W-2	1B-W-2-10	1/8/2002	10–10	3.8	BDL	3.8	BDL	—	—	3.8	BDL	—	—	3.8	BDL	—	—	—	—	3.8	BDL	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1-13	12/17/2001	13–13	5.6	BDL	5.6	BDL	—	—	5.6	**27**	—	—	5.6	**240**	—	—	—	—	5.6	**96**	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	—	—	6.9	BDL	—	—	6.9	**12**	6.9	**70**	—	—	6.9	**95**	6.9	**51**	—	—	6.9	**29**	—	—	—	**840**	—	**260**
2A-B-18	2A-B-18	12/4/2001	10–10	4	BDL	4	BDL	—	—	4	BDL	—	—	4	BDL	—	—	—	—	4	**5.2**	—	—	—	—	—	—	—	—
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	5.3	BDL	5.3	**22**	—	—	5.3	**390**	—	—	5.3	**630**	—	—	—	—	5.3	**62**	—	—	—	—	—	—	—	—
3-B-2	3-B-2-12	12/14/2001	12–12	4.3	BDL	4.3	BDL	—	—	4.3	BDL	—	—	4.3	BDL	—	—	—	—	4.3	BDL	—	—	—	—	—	—	—	—
5-W-2	5-W-2-8	12/15/2001	8–8	30	BDL	30	BDL	—	—	30	**320**	—	—	30	**2,200**	—	—	—	—	30	**4,500**	—	—	—	—	—	—	—	—
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	5.5	BDL	5.5	BDL	—	—	5.5	**84**	—	—	5.5	**600**	—	—	—	—	5.5	**1,500**	—	—	—	—	—	—	—	—
1A-W-2	1A-W-2	12/4/2001	13–15	5	**49**	5	**65**	5	**66**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1A-W-2	1A-W-2EC-7	12/4/2001	13–15	5	**42**	5	**58**	5	**62**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**110**	—	**160**
1A-W-4	1A-W-4	12/5/2001	11–11	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1B-W-1	1B-W-1	12/7/2001	15–15	5	**5.6**	5	**32**	5	**70**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1B-W-2	1B-W-2-10	1/8/2002	10–10	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1-13	12/17/2001	13–13	5	BDL	5	**16**	5	**46**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1C-W-1	1C-W-1EC-13	12/17/2001	13–13	5	BDL	5	**10**	5	**41**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**11**	—	**51**
2A-B-18	2A-B-18	12/4/2001	10–10	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-6	2A-W-6-7.5-10	12/9/2001	7.5–10	5	**29**	5	**81**	5	**140**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3-B-2	3-B-2-12	12/14/2001	12–12	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5-W-2	5-W-2-8	12/15/2001	8–8	5	**63**	5	**98**	5	**97**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5-W-4	5-W-4-7.5-10	12/9/2001	7.5–10	5	**19**	5	**66**	5	**75**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-1	PZ-1-0901-C	9/20/2001	11.5–11.5	5	**32**	5	**62**	5	**60**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-1	PZ-1-0901-D	9/20/2001	11.5–11.5	—	—	5.3	BDL	—	—	5.3	**64**	5.3	**200**	—	—	5.3	**360**	13	**670**	—	—	12	**410**	—	—	—	—	—	—
PZ-4	PZ-4-0901-C	9/22/2001	11–11	5	**100**	5	**150**	5	**140**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-4	PZ-4-0901-D	9/22/2001	11–11	—	—	5.4	**20**	—	—	5.4	**280**	5.4	**730**	—	—	6.5	**1,300**	13	**2,500**	—	—	12	**1,600**	—	—	—	—	—	—
PZ-5	PZ-5-0901-C	9/20/2001	10–10	5	**36**	5	**76**	5	**82**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PZ-5	PZ-5-0901-D	9/20/2001	10–10	—	—	5.6	BDL	—	—	5.6	**23**	5.6	**49**	—	—	6.7	**77**	13	**140**	—	—	12	**84**	—	—	—	—	—	—
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	—	—	167	BDL	—	—	167	**1,440 J**	—	—	167	**4,650 J**	—	—	—	—	167	**13,100 J**	—	—	—	**39,100 J**	—	—	—	—
TPHTP-8	TPHTP-8-SZ	3/19/1999	8–8	5	BDL	5	BDL	5	**28.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saturated Zone																													
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	—	—	6.7	BDL	—	—	6.7	BDL	6.7	BDL	—	—	6.7	BDL	6.7	BDL	—	—	6.7	BDL	—	—	—	BDL	—	BDL
1A-W-4	1A-W-4EC-7	12/5/2001	20–20	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	BDL	—	BDL

Table 7-10 Summary of EPH/VPH in Soil

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Aromatics																				Extractable Petroleum Hydrocarbons (mg/kg)		Total Aliphatic (mg/kg)		Total Aromatic (mg/kg)	
				C8–C10 (mg/kg)		C10–C12 (mg/kg)		C12–C13 (mg/kg)		C12–C16 (mg/kg)		C16–C18 (mg/kg)		C16–C21 (mg/kg)		C18–C21 (mg/kg)		C21–C28 (mg/kg)		C21–C34 (mg/kg)		C28–C34 (mg/kg)							
				DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Rail Yard																													
Vadose Zone																													
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	—	—	40	BDL	—	—	40	BDL	—	—	40	**164**	—	—	—	—	40	**1,090**	—	—	—	**3,090**	—	—	—	—
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	—	—	80	BDL	—	—	80	**852**	—	—	80	**2,540**	—	—	—	—	80	**6,250**	—	—	—	**21,200**	—	—	—	—
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	—	—	10	BDL	—	—	10	BDL	—	—	10	**25.9**	—	—	—	—	10	**303**	—	—	—	**761**	—	—	—	—
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	—	—	10	BDL	—	—	10	BDL	—	—	10	**25.5 J**	—	—	—	—	10	**245 J**	—	—	—	**884 J**	—	—	—	—
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	—	—	40	BDL	—	—	40	**94.8**	—	—	40	**465**	—	—	—	—	40	**1,600**	—	—	—	**11,700**	—	—	—	—
TPHTP-2	TPHTP-2-2	3/19/1999	2–2	5	BDL	5	BDL	5	**5.42 J**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-4	TPHTP-4-2	3/19/1999	2–2	20	BDL	20	**38**	20	**130**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-5	TPHTP-5-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-6	TPHTP-6-2	3/19/1999	2–2	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-7	TPHTP-7-2	3/19/1999	2–2	50	BDL	50	BDL	50	**177**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smear Zone																													
2A-B-11	2A-B-11-9	12/14/2001	9–9	11	BDL	11	**71 J**	—	—	11	**620 J**	—	—	11	**1,500**	—	—	—	—	11	**1,500**	—	—	—	—	—	—	—	—
2A-B-14	2A-B-14-11	12/10/2001	11–11	3.7	BDL	3.7	BDL	—	—	3.7	BDL	—	—	3.7	**4.1**	—	—	—	—	3.7	**32**	—	—	—	—	—	—	—	—
2A-B-15	2A-B-15-11	12/11/2001	11–11	4.3	BDL	4.3	BDL	—	—	4.3	BDL	—	—	4.3	BDL	—	—	—	—	4.3	BDL	—	—	—	—	—	—	—	—
2A-B-16	2A-B-16-14	12/11/2001	14–14	5.1	BDL	5.1	BDL	—	—	5.1	BDL	—	—	5.1	BDL	—	—	—	—	5.1	**13**	—	—	—	—	—	—	—	—
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	38	BDL	38	BDL	—	—	38	**350**	—	—	38	**3,100**	—	—	—	—	38	**1,700**	—	—	—	—	—	—	—	—
2A-B-6	2A-B-6	12/5/2001	5–15	140	BDL	140	**530**	—	—	140	**4,500**	—	—	140	**18,000**	—	—	—	—	140	**31,000**	—	—	—	—	—	—	—	—
2A-B-7	2A-B-7	12/6/2001	10–12.5	32	BDL	32	**90**	—	—	32	**940**	—	—	32	**4,000**	—	—	—	—	32	**8,200**	—	—	—	—	—	—	—	—
2A-W-3	2A-W-3-17	12/12/2001	17–17	3.8	BDL	3.8	**19 J**	—	—	3.8	**190**	—	—	3.8	**900**	—	—	—	—	3.8	**2,000**	—	—	—	—	—	—	—	—
2A-W-4	2A-W-4-13	12/16/2001	13–13	5.4	BDL	5.4	**12**	—	—	5.4	**120 J**	—	—	5.4	**500 J**	—	—	—	—	5.4	**1,000 J**	—	—	—	—	—	—	—	—
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	3.5	BDL	3.5	BDL	—	—	3.5	BDL	—	—	3.5	BDL	—	—	—	—	3.5	BDL	—	—	—	—	—	—	—	—
2A-W-7	2A-W-7-12	12/12/2001	12–12	3.5	BDL	3.5	BDL	—	—	3.5	BDL	—	—	3.5	BDL	—	—	—	—	3.5	BDL	—	—	—	—	—	—	—	—
2A-B-11	2A-B-11-9	12/14/2001	9–9	5	**47**	5	**240**	5	**380**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-14	2A-B-14-11	12/10/2001	11–11	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-15	2A-B-15-11	12/11/2001	11–11	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-16	2A-B-16-14	12/11/2001	14–14	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-5	2A-B-5-16:00	12/4/2001	15–15	5	**33**	5	**56**	5	**78**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-6	2A-B-6	12/5/2001	5–15	5	**49**	5	**130**	5	**220**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-B-7	2A-B-7	12/6/2001	10–12.5	5	**46**	5	**84**	5	**110**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-3	2A-W-3-17	12/12/2001	17–17	5	**35**	5	**68**	5	**97**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-4	2A-W-4-13	12/16/2001	13–13	5	**44**	5	**69 J**	5	**75 J**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-5	2A-W-5-10-12.5	12/9/2001	10–12.5	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-7	2A-W-7-12	12/12/2001	12–12	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	—	—	20	BDL	—	—	20	BDL	—	—	20	**122**	—	—	—	—	20	**677**	—	—	—	**1,810 J**	—	—	—	—
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	—	—	10	BDL	—	—	10	BDL	—	—	10	**40.5**	—	—	—	—	10	**390**	—	—	—	**961**	—	—	—	—
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	—	—	80	BDL	—	—	80	**721**	—	—	80	**1,940**	—	—	—	—	80	**4,870**	—	—	—	**17,900**	—	—	—	—
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	—	—	80	BDL	—	—	80	BDL	—	—	80	**481**	—	—	—	—	80	**2,840**	—	—	—	**9,090**	—	—	—	—
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	—	—	80	BDL	—	—	80	**542**	—	—	80	**1,310**	—	—	—	—	80	**3,610**	—	—	—	**18,100**	—	—	—	—
TPHTP-2	TPHTP-2-SZ	3/19/1999	9–9	10	BDL	10	BDL	10	**27.2**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-3	TPHTP-3-SZ	3/19/1999	4–4	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-4	TPHTP-4-SZ	3/19/1999	4–4	50	BDL	50	**64.6**	50	**263**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-5	TPHTP-5-SZ	3/19/1999	5–5	5	BDL	5	BDL	5	**14.3**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPHTP-7	TPHTP-7-SZ	3/19/1999	4–4	5	**7.14**	5	**40.1**	5	**125**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saturated Zone																													
2A-B-13	2A-B-13-17	12/10/2001	17–17	3.6	BDL	3.6	BDL	—	—	3.6	BDL	—	—	3.6	BDL	—	—	—	—	3.6	BDL	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10-16	12/12/2001	16–16	4.5	BDL	4.5	BDL	—	—	4.5	BDL	—	—	4.5	BDL	—	—	—	—	4.5	BDL	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	—	—	6.6	BDL	—	—	6.6	BDL	6.6	BDL	—	—	6.6	BDL	6.6	BDL	—	—	6.6	BDL	—	—	—	BDL	—	BDL
2A-B-13	2A-B-13-17	12/10/2001	17–17	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10-16	12/12/2001	16–16	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2A-W-10	2A-W-10EC-16	12/12/2001	16–16	5	BDL	5	BDL	5	BDL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	BDL	—	BDL

Notes:
BDL - Below detection limit.
DL - Detection limit.
J - Estimated concentration.
"—" - No data available.

Table 7-11 Summary of Soil TOC

Location ID	Sample ID	Sample Date	Depth Interval (ft)	Analytical Method	TOC (%)	
					DL	Result
1B-W-1	1B-W-1-2-4	12/7/2001	2–4	Plumb,1981	0.005	**1.70**
1B-W-3	1B-W-3EC-4	12/19/2001	4–4	TOC104-PSEP-TOC	—	**0.16**
1B-W-3	1B-W-3EC-4	12/19/2001	4–4	TOC70-PSEP-TOC	—	**0.16**
1B-W-3	1B-W-3-4	12/19/2001	4–4	Plumb,1981	0.005	**0.14**
1C-W-1	1C-W-1EC-4	12/17/2001	4–4	TOC104-PSEP-TOC	—	**0.39**
1C-W-1	1C-W-1EC-4	12/17/2001	4–4	TOC70-PSEP-TOC	—	**0.40**
1C-W-1	1C-W-1-4	12/17/2001	4–4	Plumb,1981	0.005	**0.40**
5-B-3	5-B-3EC-4	12/15/2001	4–4	TOC104-PSEP-TOC	—	**0.38**
5-B-3	5-B-3EC-4	12/15/2001	4–4	TOC70-PSEP-TOC	—	**0.38**
5-B-3	5-B-3-4	12/15/2001	4–4	Plumb,1981	0.005	**0.51**
PZ-1	PZ-1-0901-B	9/20/2001	4–4	Plumb,1981	0.005	**0.52**
PZ-4	PZ-4-0901-B	9/22/2001	4–4	Plumb,1981	0.005	**1.70**
PZ-5	PZ-5-0901-B	9/20/2001	4–4	Plumb,1981	0.005	**0.38**
2B-B-2	2B-B-2-4	12/19/2001	4–4	Plumb,1981	0.005	**3.30**
5-B-6	5-B-6EC-4	12/18/2001	4–4	TOC70-PSEP-TOC	—	**60.0**
5-B-6	5-B-6EC-4	12/18/2001	4–4	TOC104-PSEP-TOC	—	**61.3**
5-B-6	5-B-6-4	12/18/2001	4–4	Plumb,1981	0.005	**38.0**

Notes:
DL - Detection limit.
"—" - No data available.